US 60 CORRIDOR DEFINITION STUDY

Existing and Future Conditions

Working Paper

Prepared for

Arizona Department of Transportation

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1. INTRODUCTION

BACKGROUND

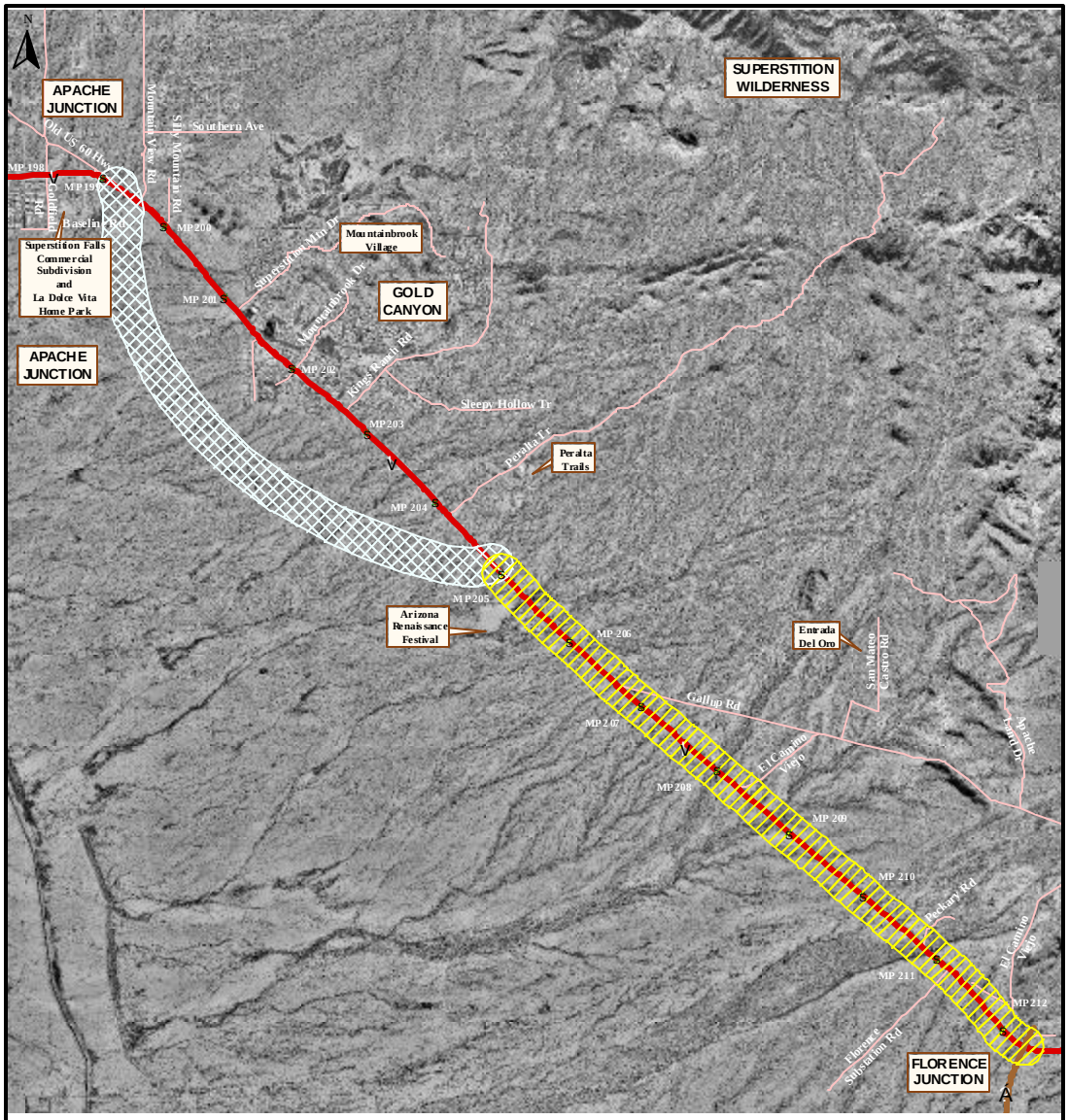
US 60 crosses Arizona for 368 miles from I-10 in La Paz County to the New Mexico Border east of Springerville. The study area shown in Figure 1-1 is located along US 60 in Pinal County between milepost (MP) 199.0 and Florence Junction (MP 212.0), a distance of 13 miles. Within the Phoenix Metropolitan area US 60 is an urban freeway (Superstition Freeway) from I-10 in Tempe to Mountain View Road in Apache Junction, a distance of 27 miles. The terminus of the Superstition Freeway in Apache Junction ties into a four-lane divided highway with limited access control. Development in the Gold Canyon area has forced the construction of traffic signals near the terminus of the freeway. A potential US 60 Reroute has been proposed from the existing terminus of the US 60 freeway at Gold Field Road traversing southeasterly, generally paralleling the existing US 60, then connecting back to existing US 60 at MP 205.0. The study area would then continue along the existing US 60 alignment for approximately seven miles to SR 79 at Florence Junction. The total length of the study area is thirteen miles.

Pinal County is rapidly developing with many sections of farm land being quickly transformed into residential and commercial uses. Over 280,000 housing units have been approved by the County. Developments in Maricopa County have now extended into Pinal County, such as Johnson Ranch. Moreover, many sections of State Lands are located south of Apache Junction between the Maricopa County boundary and existing US 60. The eventual release of these State Lands will undoubtedly attract more residential or commercial growth and subsequently stress the transportation systems in both Pinal County and Maricopa County. The existing system will soon be inadequate to serve future mobility needs and State highways in northern Pinal County will become over burdened including US 60, SR 87, SR 79, and SR 77. The current population of Apache Junction is approximately 34,400 residents, growing to over 70,000 residents during the winter months of mid-October to mid-April. Population has been growing by approximately 8.2 percent since 2002. The recent Apache Junction Small Area Transportation Study (SATS) estimates the City will reach 250,000 people by 2030, based on projected population and employment growth.

PURPOSE

The purpose of this study is to further define the possible US 60 Corridor from the Superstition Freeway to Florence Junction, including the possible reroute of US 60 in the Gold

FIGURE 1-1. STUDY AREA



Canyon area. The study area definition will build upon the Southeast Maricopa/Northern Pinal County Area Transportation Study and will also evaluate the potential benefits of the study area on the existing state system in Pinal County. The study will determine whether the study area is needed to meet future transportation demand. If the study area is needed, the study will recommend to the State Transportation Board whether the study area should be considered for designation as a state highway immediately, or if further study is warranted prior to such a designation.

ORGANIZATION OF WORKING PAPER

The next section of this chapter summarizes the major findings of the Working Paper. Chapter 2 presents the review of previous studies and plans. The next chapter discusses the existing socioeconomic and physical conditions within the study area. Chapter 4 then presents the current roadway conditions. Future population and traffic conditions within the study area are presented in Chapter 5. The appendices present support material on the environmental conditions, roadway characteristics, and the planning model.

For discussion on the study area issues identified through the stakeholder and public meeting process, please refer to the following Summary Notes: 1) Gold Canyon Stakeholder Focus Group, 2) Pinal County Stakeholder Focus Group, 3) Apache Junction Stakeholder Focus Group, and 4) Public Open House Meeting.

SUMMARY OF FINDINGS

The following presents a summary of the major findings documented in the Working Paper.

Previous Studies and Plans

Study Area Studies

- The 1999 Design Concept Report and Environmental Assessment examined major improvements on existing US 60 including frontage roads and grade separated interchanges.
- The 2003 US Design Concept Report examined a "bypass" alternative south of the existing US 60 from the Superstition Freeway to MP 205 just west of the Renaissance Festival Site. The project was placed on hold.
- The Superstition Freeway Extension – Project Assessment, March 2003 sponsored by Pinal County.
- The 2004 Move AZ plan prioritizes long-range projects on State highways. The Plan does not include projects on US 60 between the Superstition Freeway and SR 79.

Programmed Projects

- The current Arizona Five-year Construction Program does not include any projects on US 60 between the Superstition Freeway and SR 79.
- Two ADOT programmed projects are located near the study area. The project closest to the immediate vicinity of the study area begins at Florence Junction (MP 212.17) and continues for six miles eastward. The project is to reconstruct and widen the roadway as a four lane divided highway at a cost of $37,000,000. The work is programmed for Fiscal year 2006. The Arizona State Transportation Improvement Program 2005-2009 lists a Pinal County design project on Mountain View Road in the vicinity of the study area.

Planning Studies

- A study is underway by the Morrison Institute to determine the land use concept for the Arizona State Lands south of Apache Junction and west of US 60.

Current Demographics

- The area the study area traverses has experienced dramatic growth over the last 14 years. Population data obtained from the Department of Economic Security indicates that between 1990 and 2000, Pinal County grew by 54.4 percent and Apache Junction by 75.8 percent. Between 2000 and 2004, the population growth was 21.5 percent in Pinal County and 6.0 percent in Apache Junction.
- The 2000 census reported that the City of Apache Junction had a population of 31,814, over 25 percent of whom were ages 65 or older. The Gold Canyon area reported a population of 6,015, nearly 30 percent of whom were ages 65 or older.
- Outside of private development in Gold Canyon, land ownership in the study area is primarily under the management of the Arizona State Land Department (ASLD) with the exception of some scattered large private parcels between Gold Canyon and Florence Junction, and Bureau of Management (BLM) lands.
- Much of the privately owned land within the Study area is built out. New major residential and commercial growth will only occur on private or Arizona State Land Department lands.
- Annual events such as the Arizona Renaissance Festival, the international Traditions Golf tournament, and the Lost Dutchman Marathon, as well as numerous trailheads in the Superstition Mountains and White Canyon Wilderness area attract many visitors year round.

Physical and Environmental Conditions

Topography and Drainage

- Described as "valley topography," the study area is composed of alluvial fans southwest of the Superstition Mountains.
- Study area drainage is characterized by washes that flow from the Superstition Mountains to the valley floor through fan shaped areas of alluvial deposits. Drainage is generally in the southwesterly direction, however, washes are not always clearly defined and flood planes are not easily delineated.
- Federal Emergency Management Agency (FEMA) designates Peralta Wash, Navajo Wash, and Queen Creek as a "Zone A" flood area.
- US 60 crosses the alluvial fans and multiple washes. The possible reroute of US 60 between MP 199 to MP 205 would also cross the alluvial fans.

Environmental Conditions

- Numerous archeological sites have been recorded in the study area.
- Hazardous sites include the City of Apache Junction landfill, approximately two miles west of the study area and underground storage tanks along portions of US 60.
- Mining operations exist in the vicinity of the Study area.
- Undeveloped lands within the study area are pristine desert, vegetated primarily of Arizona Upland Sonoran Desert Scrub.
- The study area supports habitats of a variety of smaller mammals, birds, and reptiles. Riparian communities within the study area play important roles in the feeding, nesting, resting, and traveling of wildlife species.
- Arizona Game and Fish Department has stated that their records do not indicate the presence of any special status species or any designated or proposed critical habitats in the study area.

Current Roadway, Traffic, and Safety Conditions

Roadway Characteristics

- US 60 Corridor is a four-lane divided highway with limited access control. The study area traverses primarily lands administered by Arizona State Land Department with some privately owned and Bureau of Land Management lands. The unincorporated town of Gold Canyon is located adjacent to the study area.
- US 60 is controlled by four signalized intersections within the Gold Canyon area.
- A grade separated interchange exists on US 60 at SR 79, Florence Junction.

Traffic Characteristics

- 2004 Average Daily Traffic between Kings Ranch Road and Goldfield Road varied from 24,800 to 31,000 vehicles per day. The 2002 Average Daily Traffic west of SR 79 was approximately 14,000 vehicles per day.
- Traffic volumes on US 60 increase during the Renaissance Festival.
- The entire length of US 60 currently operates below capacity.

Crashes

- During a five-year period from August 2, 1999 to July 8, 2004, a total of 491 crashes occurred on US 60 between Milepost 199 and 212. Of this total, approximately 32 percent were intersection related.
- Approximately 58 percent of the accidents occurred between MP 199 and 201.
- Six fatalities occurred during this same period.
- Of the total crashes, approximately 38 percent were single vehicle accidents and 50 percent were angle, turning, or read-end accidents.

Future Conditions

- A Pinal County Planning Model (PCPM) was developed to estimate 2030 traffic volumes in a larger modeling area comprised of a portion of Maricopa County and a large portion of northern Pinal County.
- The projected 2030 population within the modeling area is approximately 1.5 million people. Of this population, 0.4 million is within the Maricopa County portion of the modeling area and 1.1 million are within the Pinal County portion of the modeling area.
- A 2030 roadway network was defined including improvements in the Maricopa Association of Governments (MAG) Regional Transportation Plan, future arterials and arterial improvements in the Apache Junction SATS, and an expanded arterial system in Pinal County.
- The projected 2030 Average Daily Traffic Volumes on existing US 60 between Goldfield Road and Kings Ranch Road was 78,000 vehicles per day and 41,000 vehicles per day west of SR 79.
- The existing roadway segments US 60 between Goldfield Road and SR 79, will be over capacity in year 2030, using the assumed 2030 population for the modeling area.

2. REVIEW OF PREVIOUS STUDIES AND PLANS

This chapter reviews the previous studies and plans regarding transportation and land use within the study area: state transportation studies and plans, area transportation and land use studies, and plans prepared by jurisdictions located within the study area. In addition, statewide and area programmed transportation improvements are summarized. Table 2-1 presents a summary of the previous studies and plans.

TABLE 2-1. SUMMARY OF PREVIOUS STUDIES AND PLANS

Title	Date	Summary
ADOT Transportation Studies		
State Transportation Board Policies	Rev 2003	Policies pertaining to the following areas; priority programs, establishing, altering or vacating highways, construction contracts, accelerated funding mechanisms, local government airport grants, and designating scenic or historic highways.
Statewide Bicycle Pedestrian Plan	2003	Developed to determined existing conditions for bicycle travel and identify preferred bicyclist routes on the State Highway System.
1994 State Transportation Plan	1994	Presented an updated 20-year plan for Arizona. This plan included all modes of transportation including state highways, railways, public transit, bicycles, and pedestrians. Addressed short-term (1 to 3 years), mid-term (3 to 5 years), and long-term (5 to 20 years) economic futures and impacts to the state transportation system.
2004 MoveAZ	2004	Provided strategic direction for the state transportation system.
ADOT Study area Studies		
Design Concept Report, US 60 Florence Jct (MP 211.7) to Superior (MP 226.8)	May 2004	Does not directly impact the section of US 60 under study near the Gold Canyon area, but does demonstrate future regional importance.
US 60 DCR, AJ to Florence Junction, Draft Documents, BRW/ADOT	2003	Includes meeting notes from Aug. and Jan. 2001 and Jan. 2002. Discussed evaluation of alternatives, preliminary costs, habitat concerns, and annexation plans. This study is on hold.
Preliminary Geotechnical / Geological Assessment, US 60 Gold Canyon Bypass Alternative, AJ to Florence Jct.	Jan 2001	The study concluded with recommendations for possible excavation conditions, cut and fill slopes and potential conditions for pavement and foundations.
Noise Study Technical Report, US 60 – Apache Junction to Florence Junction	June 2000	The analysis showed that proposed improvements (non by-pass) would require noise mitigation, depending on location and type of facility.
US 60 MP 199.17 to MP 212.17, Initial Traffic Operational Analysis Report	Nov 2000	The report recommended either an alternative with one-way frontage roads or the By-pass alternative to best accommodate future traffic needs.
Draft Environmental Assessment, US 60 – Apache Jct. to Florence Jct.	Dec 1999	Several mitigation measures were proposed along the existing alignment; cultural resources mitigation, noise abatement, preventing noxious weeds, salvage of native plants, and creating a storm water pollution plan.
Draft Initial Design Concept Report, US 60 – Apache Jct. to Florence Jct.	Nov 1999	Recommended adding a traffic lane between MP 199.17 and 200.00, reconstructing with median and two interchanges between 200.00 and 203.4, and maintaining four-lanes between 203.4 and 212.17

TABLE 2-1. SUMMARY OF PREVIOUS STUDIES AND PLANS (CONTINUED)

Title	Date	Summary
US 60 Corridor Profile Study, Inventory of Existing Conditions and Analysis of Needs and Deficiencies	1998	Focused on four elements related to the US 60 Corridor from Apache Junction to Globe: identifying performance and environmental concerns, addressing travel issues, develop strategic goals, and helping to allocate scarce State resources.
Resolution of Establishment # 98-11-A-057, US 60 – Apache Jct. to Forest Boundary	Nov 1998	Recommends establishment of access control for US 60 from Apache Jct to MP 220. Outlines how to acquire and implement necessary control measures.
Pinal County		
Superstition Freeway Extension – Project Assessment	March 2003	The project assessment discusses the by-pass alternative as well as improvements to the existing alignment.
Southern Pinal County Regional Transportation Study	April 2003	Conducted to determine transportation needs as the Southern Pinal County region develops, including; assessment of existing and future conditions, recommended improvements, and funding mechanisms.
Preliminary Assessment of Environmental Issues Associated with the US 60 Extension Project, Pinal County	May 2003	Issues with the Endangered Species Act would focus on the Cactus Ferruginous Pygmy-Owl within the proposed realignment study area, a number of archaeological sites were identified and cataloged, cited the need for an Environmental Assessment and proper permits.
Regional Arterial and Collector Street Plan (Hunt Highway and Gantzel Road Area)	June 2003	The plan focused primarily on section line roads at the one mile grid. This study did not extend to include US 60 and does not impact the study area.
Pinal County Comprehensive Plan	2001	Provides a general guide to transportation issues over the next twenty years. Identified expansion in Northern Pinal County, and specified the US 60 Corridor as being under study.
Superstition Valley Transportation Study	July 1999	Analyzed impacts of future development on an area of northern Pinal County known as Superstition Valley.
Apache Junction		
Small Area Transportation Study, City of Apache Junction	May 2004	Shows US 60 by-pass as a proposed freeway with connections to other proposed roadways. The US 60 by-pass will impact future development and roadway plans for Apache Junction.
Street Circulation and Access Study, Apache Junction	Feb 2003	Recommended improvements to local streets, north of the US 60 study area, no direct impacts on the US 60 study.
City of Apache Junction, General Plan	Nov 1999	Circulation plan map does not show a by-pass for US 60. However, the area south and west of US 60 is shown as a growth area for Apache Junction.
Apache Junction Transportation /Transit Study, Apache Junction	Sept 1988	Indicated connection between US 60 and the freeway system near Florence Junction. The plan does not directly impact the US 60 study area under current study.
Other Studies		
Southeast Maricopa / Northern Pinal County Area Transportation Study, MAG	Sept 2003	The study specifically identifies the US 60 Bypass as a new highway study area. The US 60 Bypass is identified in Group I (highest emphasis) for implementation within this study.
Superstition Area Land Plan, Superstition Area Land Trust	June 2002	The Study presents quantitative and qualitative recommendations including impact on developed areas, safety, and quality of life for a large area surrounding and north of US 60 between Apache Jct. and Florence Jct.
Central College Bond Feasibility Study, Demographic Analysis, Applied Economics	May 2004	This report provides long-term population projections for Pinal County to assess needs for the college. Estimates 1 million people and 136,000 dwelling units by 2025.

STATE TRANSPORTATION STUDIES AND POLICIES

State Transportation Board Policies

The ADOT State Transportation Board maintains a set of policies that guide transportation decisions throughout Arizona. These policies cover multi-modal planning, system management, programming and funding, fiscal accountability, and external relationships. Important policies impacting the US 60 reroute study including the following:

> ***Multimodal Facilities Policy -*** The Board will consider opportunities for inclusion of multi-modal facilities within or proximate to state highway facilities or within other appropriates. Multi-modal facilities may include exclusive or prioritized bus, vanpool, and other high-occupancy-vehicle lanes; ramps and other access-ways; related signalization; stops; storage facilities; park & ride facilities; pedestrian/bicycle facilities; air facilities; rail facilities; other high capacity transit facilities; and Intelligent Transportation Systems.
>
> ***Access Management Policy -*** It is the policy of the Board to preserve the functional integrity of the State Highway System through the development and implementation of a comprehensive access management program.

Statewide Bicycle Pedestrian Plan

The statewide bicycle plan was developed to determine existing conditions for bicycle travel and identify preferred bike routes on the State Highway System. Bicycles are prohibited on the designated freeway system within Phoenix and Tucson. This prohibition ends for US 60 west of the study area. The Plan identifies the current US 60 Corridor from Apache Junction east as a "more suitable" route for bicycles. This rating is based on the type of facility, availability and size of paved shoulders, amount of traffic, and terrain. The Plan did not identify any needed widening of the existing alignment to accommodate bicycles. However, the type of proposed improvements on US 60 and future route suitability designation will impact future bicycle accommodation on this section of US 60.

1994 State Transportation Plan

The 1994 State Transportation Plan (STP) presented an updated 20-year plan for Arizona. This plan included all modes of transportation including state highways, railways, public transit, bicycles, and pedestrians. The STP addressed short-term (1 to 3 years), mid-terms (3 to 5 years), and long-term (5 to 20 years) economic futures and impacts to the state transportation system. The six major goals and objectives from the plan are summarized below:

1. *Transportation System* – To develop and maintain an integrated, balanced, and multimodal State Transportation System that meets the needs of Arizona.

2. *Economic Development* – To develop a transportation system that promotes Arizona's economic development, accommodates the state's population growth, and serves permanent and part-time residents and tourists.

3. *Land Use* – To develop a transportation system that is compatible with existing and planned land uses.

4. *Environmental Considerations* – To develop a transportation system that preserves and enhances Arizona's environmental conditions and values.

5. *Implementation and Financing* – To develop an effective system for implementing the elements of the planned transportation system on a stable and equitable funding basis.

6. *Coordination* – To establish a coordinated transportation system that is compatible among all transportation modes and all governmental jurisdictions.

The STP identifies US 60 as a corridor of statewide significance. The STP states that these study areas should identify long-term opportunities and improvements to enhance travel for all appropriate modes.

2004 MoveAZ

The Arizona Long-Range Transportation Plan (MoveAZ Plan) provides a strategic direction for the state transportation system. The MoveAZ plan is performance based using objective and measurable standards to set agency goals and make decisions about competing projects. Projects were evaluated based on their contribution to the performance of the transportation system. The stated mission of the MoveAZ Plan is:

> To support Arizona's quality of life, the MoveAZ Plan will provide a safe, reliable, and efficient transportation system for people and goods that strengthens our economic vitality; assures access to services and recreational opportunities; preserves the beauty and health of our natural environment; and blends into our urban and rural landscapes.

A summary of the major goals for the MoveAZ Plan are provided below:

> *Access and Mobility* - A reliable and accessible multimodal transportation system that provides for the efficient mobility of people and goods throughout the state.
>
> *Safety* - Provide safe transportation for people and goods.

Economic Vitality – A multimodal transportation system that improves Arizona's economic competitiveness and provides access to economic opportunities for all Arizonans.

Stewardship – A balanced, cost-effective approach that combines preservation with necessary expansions and coordinates with local and regional transportation and land use planning.

Environmental Sensitivity – A transportation system that enhances Arizona's natural and cultural environment.

MoveAZ prioritized projects throughout the state. However, the US 60 study area from Apache Junction to Globe was not identified as a future project within the MoveAZ Plan.

ADOT STUDY AREA STUDIES

Design Concept Report, US 60 Florence Jct (MP 211.7) to Superior (MP 226.8), ADOT, May 2004

This Design Concept Report (DCR) addresses the section of US 60 (MP 211.7 to MP 225.8) just east of the segment of US 60 under consideration. This DCR analyzed proposed improvements to meet capacity, operational, and safety needs for this section of US 60 through the year 2025. Improvement alternatives ranged from adding lanes to realigning various sections, as well as implementing an access management plan. This DCR does not directly impact the section of US 60 under study near the Gold Canyon area, but does demonstrate the future importance of this regional route.

US 60 Design Concept Study, Draft Documents from AJ to Florence Junction, BRW/ADOT, 2003

A variety of draft documents were reviewed from this study including: meeting notes, evaluation of alternatives as presented at a public informational meeting, preliminary cost estimates of alternatives, and aerials with proposed alignments overlaid. The meeting notes reviewed are from August and January 2001 and January 2002. The January 2001 meeting discussed environmental mitigation, and issues such as Pygmy Owl impacts, noting a biological evaluation was underway. The August 2001 meeting discussed issues surrounding the conceptual bypass for US 60. Points covered included, ROW and habitat replacement cost, a conceptual land use plan, Apache Junction annexation of the area in question, and the need to update the noise study. The January 2001 meeting once again discussed mitigation needs for Pygmy Owl habitat if the bypass is built, which were called into question at this meeting due to recent court rulings. Other points discussed included a proposed MAG study covering this area, cost estimates ($50 million for improving existing alignment and $125

million for the bypass alignment), and Pinal County's desire to focus public review on the bypass alternative.

Detailed preliminary cost (January 2003) estimates for existing study area improvements and the bypass alternative were included in the draft documents. The cost for improving the existing study area was estimated at $54 million and the bypass alternative at $117 million. The aerials show detailed alignment proposals for both the existing study area and the bypass, with TI locations, drainage structures, and ROW needs.

Preliminary Geotechnical/Geological Assessment, US 60 Gold Canyon Bypass Alternative, Apache Junction to Florence Junction, ADOT, January 2001

This study was to perform a fatal flaw assessment of the proposed US 60 Bypass, and to provide preliminary geotechnical/geological recommendations in support of a Design Concept Report. The analysis found no unusual or fatal flaw features within the proposed bypass study area. The study concluded with recommendations for possible excavation conditions, cut and fill slopes, and potential conditions for pavement and foundations.

Noise Study Technical Report, US 60 – Apache Junction to Florence Junction, ADOT, June 2000

This study provided noise analysis of proposed improvements to the section of US 60 through the Gold Canyon area. The improvements analyzed where various configurations of frontage road and overpasses along the existing US 60 alignment, the by-pass alignment was not included in this noise analysis. The analysis showed that proposed improvements would require noise mitigation depending on location and type of facility.

US 60 MP 199.17 to MP 212.17, Initial Traffic Operational Analysis Report, ADOT, November 2000

This study was initiated by ADOT to understand the development pressures along this section of US 60, and to develop solutions to maintain adequate capacity, and preserve operations of the highway. This section of US 60 is the section under study. This report provides detailed analysis of existing traffic conditions including access points, signal locations, lane configurations and volumes. Additionally, the report analyzed four alternatives (including a no-build alternative) for future improvements. The alternatives proposed various configurations of frontage roads and overpasses to relive traffic congestion through the Gold Canyon area. Alternative C is a by-pass alternative, a detailed traffic operational analysis for the future year 2025 is provided. The report recommended either an alternative with one-way frontage roads or the by-pass alternative to best accommodate future traffic needs.

Draft Environmental Assessment, US 60 – Apache Jct. to Florence Jct., ADOT, December 1999

This environmental assessment was conducted to analyze proposed upgrades to US 60 between Apache Junction (MP 199.2) and Florence Junction (212.2). The improvements considered were all within the existing alignment and this assessment did not review a by-pass alternative for the segment through the Gold Canyon area. Several mitigation measures were proposed for improvements to US 60 along the existing alignment, they included cultural resources mitigation, noise abatement, preventing noxious weeds, salvage of native plants, and creating a storm water pollution plan.

Draft Initial Design Concept Report, US 60 – Apache Jct. to Florence Jct. ADOT, November 1999

This report involved identifying feasible alternatives, determining a preferred alternative, and identifying a long-range improvement program for US 60 from MP 199.17 to MP 212.17. Results of the study found the best alternatives included a build alternative for MP 199.17 to MP 200.00, adding third east and westbound lanes to the existing alignment. The next segment from MP 200.00 to MP 203.40 would be reconstructed with a graded median separation, two-way frontage roads within the existing ROW, and new interchanges at Superstition Mountain Drive and just east of Kings Ranch Road. The last segment from 203.4 to 212.17 would maintain the existing four-lane highway with an interchange at Peralta Road.

US 60 Corridor Profile Study, Inventory of Existing Conditions and Analysis of Needs and Deficiencies, Final Report, DMJM, 1998

The purpose of this study focused on four elements related to the US 60 Corridor from Apache Junction to Globe, these included identifying performance and environmental concerns, addressing travel issues, developing strategic goals, and helping to allocate scarce State resources. The final report provided a review of pertinent studies and plans, details of the socioeconomic environment within the study area, description of the physical and natural environment, inventory of existing transportation facilities, findings, and deficiencies. The study found deficiencies in pavement conditions, bridge conditions, some areas of high crash rates and inadequate geometric conditions. Recommendations included widening, rebuilding traffic interchanges, adding climbing lanes, constructing scenic pull-outs, re-striping, and traffic signal modification. No specific recommendations were made for the section understudy for the US 60 reroute.

Resolution of Establishment # 98-11-A-057, US 60 – Apache Jct. to – Forest Boundary, ADOT, November 1998

This *Resolution of Establishment*, filed and signed by the Director of ADOT in November of 1998 recommends the establishment and acquisition of access control for improvements of US 60 from Apache Junction to the Tonto National Forest Boundary at approximately MP 220. It is further resolved that the particular portion of US 60 is designated as an access controlled State Route and State Highway. The resolution outlines the proceedings on how to acquire the necessary access control.

PINAL COUNTY

Superstition Freeway Extension – Project Assessment, Pinal County, March 2003

This brief overview provides a detailed analysis of the main issues around choosing an alignment for extending US 60 into Pinal County within the Gold Canyon area. Two basic alignments were reviewed; utilizing existing alignment or considering a by-pass. The assessment concluded that both alternatives had similar construction costs; however, the by-pass alternative would require additional ROW and environmental mitigation costs. Major stakeholders including Pinal County, Apache Junction, and the Arizona State Land Department favor the by-pass alternative. The project assessment discusses the by-pass alternative as well as improvements to the existing alignment.

Southern Pinal County Regional Transportation Study, Pinal County, April 2003

This study was conducted to determine transportation needs as the southern Pinal County region develops, including assessment of existing and future conditions, recommended improvements, and funding mechanisms. The study recommended improvements on 43 miles of county roads over the next twenty years to accommodate a projected increase in traffic of 60 percent. The study area for this plan is south of the US 60 study area and as such does not discuss impacts on US 60.

Preliminary Assessment of Environmental Issues Associated with the US 60 Extension Project, Pinal County, May 2003

This study provided an overview of environmental compliance issues associated with the US 60 realignment project. The assessment indicated the potential need to address issues with the Clean Water Act, Section 404, with 42 potential wash crossings identified. It was found that issues with the Endangered Species Act would focus on the Cactus Ferruginous Pygmy-Owl within the proposed realignment study area. Additionally, a number of archaeological sites were identified and cataloged. The study cited the potential need for an Environmental

Assessment as well as the need to obtain permits to address the Arizona Pollution Discharge Elimination System Program requirements.

Regional Arterial and Collector Street Plan (Hunt Highway and Gantzel Road Area), Pinal County, June 2003

The purpose of this plan was to establish the road network and street cross-sections for this area of Pinal County. The plan focused primarily on section line roads at the one mile grid. This study did not extend to include US 60 and does not impact the study area.

Pinal County Comprehensive Plan, Pinal County, 2001

This plan covers a range of topics and needs for Pinal County including, land use, natural environment, transportation, and water resources. The transportation element provides a general guide to transportation issues facing Pinal County over the next twenty years. One of the major issues identified was expansion in Northern Pinal County; specifically the plan indicated the US 60 study area as being under study.

Superstition Valley Transportation Study, Final Report, Pinal County, July, 1999

This study analyzed impacts of future development on an area of northern Pinal County known as Superstition Valley. The study area was generally south of Baseline Road, east of Power Road, west of SR 79 and north of SR 287. This study area is just south of the US 60 bypass location, however land use changes and subsequent increases in traffic will impact surrounding facilities such as US 60. The study estimated a future population in the Superstition Valley area of 131,000 with a need for local road improvements as well as sub-regional roads like SR 79, Ellsworth, and SR 287.

CITY OF APACHE JUNCTION

Small Area Transportation Study, City of Apache Junction, May 2004

The purpose of this study was to create a multi-modal transportation plan for the City of Apache Junction. The study reviewed existing conditions and presents proposed roadway improvements and new roadways for expected future conditions. The study discusses the importance of the US 60 by-pass for economic development and the impacts on future traffic patterns. The study show the US 60 by-pass as a proposed freeway with connections to other proposed roadways on road configuration exhibits. It was noted that whether or not the US 60 by-pass is built will impact future development and roadway plans for the City of Apache Junction.

Street Circulation and Access Study, Apache Junction, February, 2003

This study focuses on local access within the City of Apache Junction. The area is specifically bounded by Idaho Road, Old West Highway, Goldfield Road, and Apache Trail (SR 88). The stated purposes of the study included recommending a street network to provide access to residents and for emergency vehicles, planning future lot splits, setting policies and standards, understanding future traffic demand, and recommending appropriate cross-sections. The results of the study provided set of recommended improvements including specific abandonments and/or needed purchases, intersection improvements, and widening projects. The study area is north of the US 60 study area with a focus on local streets, as such, there are no direct impacts on the US 60 study.

City of Apache Junction, General Plan, November 1999

This General Plan provides the vision, goals and objectives for land use, circulation, public service, housing, open space, environmental, and growth. The main recommendations for circulation focused on the need to develop a master street plan, improve internal circulation and adding regional transportation connections. It was noted that new interchanges with US 60 will be important to handle future traffic as well as for economic development purposes. The circulation plan map does not show a by-pass around the Gold Canyon area for US 60. However, the area south and west of US 60 is shown as a growth area for Apache Junction.

Apache Junction Transportation / Transit Study, Apache Junction, September, 1988

This study was developed to create both a five-year street improvement program and to guide long-term development of the street network. The plan examined connections to various freeways, including US 60; transit services options; and a policy for roadway abandonment's. This 1988 plan examined connections to US 60 from the proposed Santan Freeway generally along the alignment of Germann Road as well as a southern extension of Goldfield to the south. This concept indicated a direct connection between US 60 and the freeway system near Florence Junction. The plan does not directly impact the US 60 study area under current study.

MARICOPA ASSOCIATION OF GOVERNMENTS

Southeast Maricopa/Northern Pinal County Area Transportation Study, Maricopa Association of Governments, September, 2003

The purpose of this study was to plan the long-range transportation needs where southeast Maricopa County and Northern Pinal County meet. This study addresses the overlapping issues between the two counties and evaluates the transportation linkages. The study reviewed the existing transportation system, identified major issues, recommended arterial

improvements, analyzed transit needs, and discussed freeway study area needs and development. The study specifically identifies the US 60 Bypass as a new highway study area. The US 60 Bypass is identified in Group I (highest emphasis) for implementation within this study.

OTHER PLANNING EFFORTS

Superstition Area Land Plan

The study area includes approximately 105 square miles of land located between Superstition Wilderness Area, Tonto National Forest, and a line a mile southwest and south Highway 60. The intent of this study is to provide decision-makers with current environmental and land use data. The Study presents quantitative and qualitative recommendations to the people who make decisions about the disposition of these lands, including the impact on the developed areas and the safety and quality of life to the people of this scenic area.

Central College Bond Feasibility Study, Demographic Analysis, Applied Economics, May 14, 2004.

The report provides long-term population projections for Pinal County developed for the Central Arizona College in conjunction with a bond feasibility study. The projections will be used to assess future needs for facilities and program offerings for the college. The study divided Pinal County into seventeen study areas within and surrounding Pinal County. Major findings of the report include:

- The 2000 population of Pinal County will grow to approximately one million by 2025.
- Within five years, the most active areas are expected to be the San Tan and Maricopa Stanfield Areas.
- White population is projected to decrease to about half of the population, while Hispanic population will grow to about 44 percent.

In regard to the Maricopa Stanfield area, the study projects explosive growth with up to 4,000 new dwelling units per year. It is anticipated that more than 136,000 DU's will be built in the next 20 years. Most of the initial development will occur in close proximity to existing development within the City of Maricopa. Most new development is expected to occur within the next five years subsequent to the availability of water and sewer services.

State Lands

Most recently, in the fall of 2004 Pinal County representatives have been meeting with the Arizona State Land Department Commissioner and staff regularly to discuss the planning of

the 350 square miles of State land in Pinal County south of the US 60 study area. This effort was prompted by the East Valley Partnership and the Superstition Area Land Trust (SALT) to balance the future growth direction that has shifted to the West Valley. Opening up the state lands would provide the East Valley with further growth potential. In a recent meeting with the State Land Commissioner and staff the East Valley Partnership, SALT, Pinal County, Apache Junction, SRP, Sonoran Institute, and Morrison Institute met to discuss moving forward with a planning permit for the area. The Morrison Institute has been retained by ASLD to determine the economic viability of the land in question. The involved stakeholders are interested in getting a specific area plan completed, amending the Apache Junction General Plan and Pinal County Comprehensive Plan, and subsequently acquiring the necessary zoning. ASLD is currently undertaking environmental studies for the three areas: Apache Junction City, Lost Dutchmen Heights (3,700 acres), and Superstition area. The *Lost Dutchman Heights* has two components: a detailed planning effort south of US 60 encompassing the future city limits of Apache Junction and a second area extending south to the Germann Road Alignment. The *Superstition Vistas Concept Plan* encompasses all of the State Land south of US 60 reaching as far south as Florence.

STATEWIDE AND AREA PROGRAMMED IMPROVEMENTS

Currently, ADOT's Five Year Transportation Facilities Construction Program 2005-2009 does not specify any particular projects within the study area. The project closest to the immediate vicinity of the study area begins at Florence Junction (MP 212.17) and continues for six miles eastward. The project is to reconstruct and widen the roadway as a four lane divided highway at a cost of $37,000,000. The work is programmed for Fiscal year 2006. The Arizona State Transportation Improvement Program 2005-2009 lists a Pinal County design project on Mountain View Road in the vicinity of the study area.

3. CURRENT SOCIOECONOMIC AND PHYSICAL CONDITIONS

This chapter reviews the socioeconomic and physical environment of the study area. The first section discusses the socioeconomic environment, followed by a section on demographic and environmental justice considerations, and concluding with a summary of the physical considerations of the Study area.

SOCIOECONOMIC ENVIRONMENT

Land Ownership and Jurisdictional Boundaries

With the exception of the private development in the Gold Canyon area, and several other large privately owned parcels west of Gold Canyon, the land within the study area is primarily owned by the State and managed by the Arizona State Land Department, or is owned and managed by the federal Bureau of Land Management. The portion of the study area where a re-route is being studied begins within the limits of the City of Apache Junction, crosses BLM land, and continues past the unincorporated community of Gold Canyon. The remainder of the study area crosses ASLD land and a few privately held parcels. The entire study area lies within Pinal County. Utility easements parallel US 60 and several overhead power lines follow the route. A 230 kilovolt transmission line lies just north of the westbound lanes and other distribution power lines lay just south of the eastbound lanes. Figure 3-1 presents an overview of the land ownership and jurisdictional boundaries.

Land Use

Figure 3-2 shows land use in the study area as designated in the ***Pinal County Comprehensive Plan***. The designations include the following: 1) Incorporated Area and Transitional; 2) Urban; 3) Natural Resource; 4) Development Sensitive, and 5) Commercial Activity Center areas. Land use designations in the City of Apache Junction *Draft Development Plan Land Use* within the study area shown in Figure 3-3. These designations include: 1) Medium and High Density Residential; 2) Business Park/Industrial; 3) Employment/Retail; and 4) and Public Institutional. The Apache Junction Future Planning Area is south of Elliott Road alignment.

Existing land use within the study area is primarily undeveloped/vacant land with some commercial and residential land uses. Higher density residential land uses are found in developments such as Superstition Fall Commercial Subdivision and La Dolce Vita Home Park within the city limits of Apache Junction, and within the unincorporated community of Gold Canyon.

FIGURE 3-1. LAND OWNERSHIP

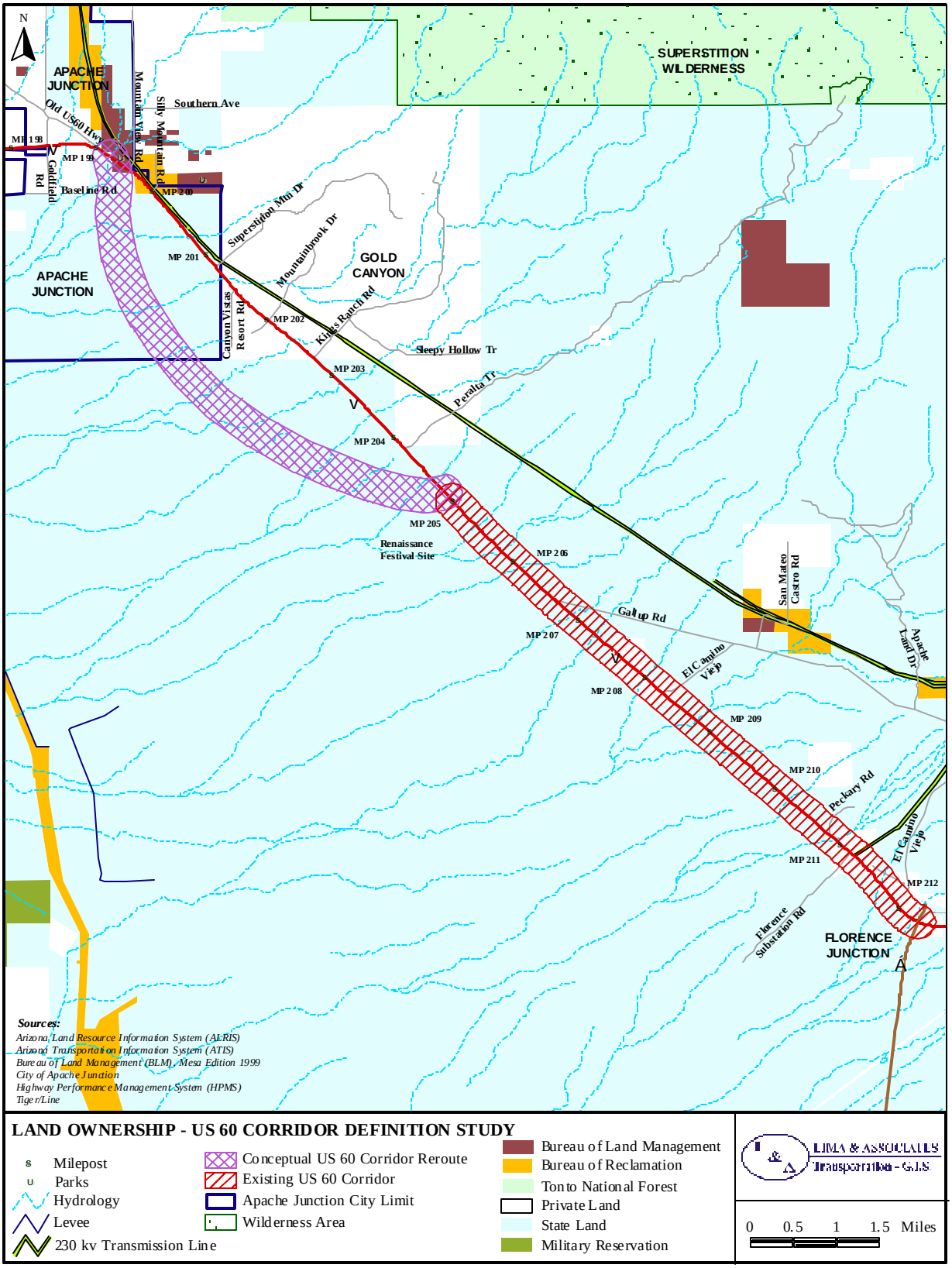


FIGURE 3-2. LAND USE

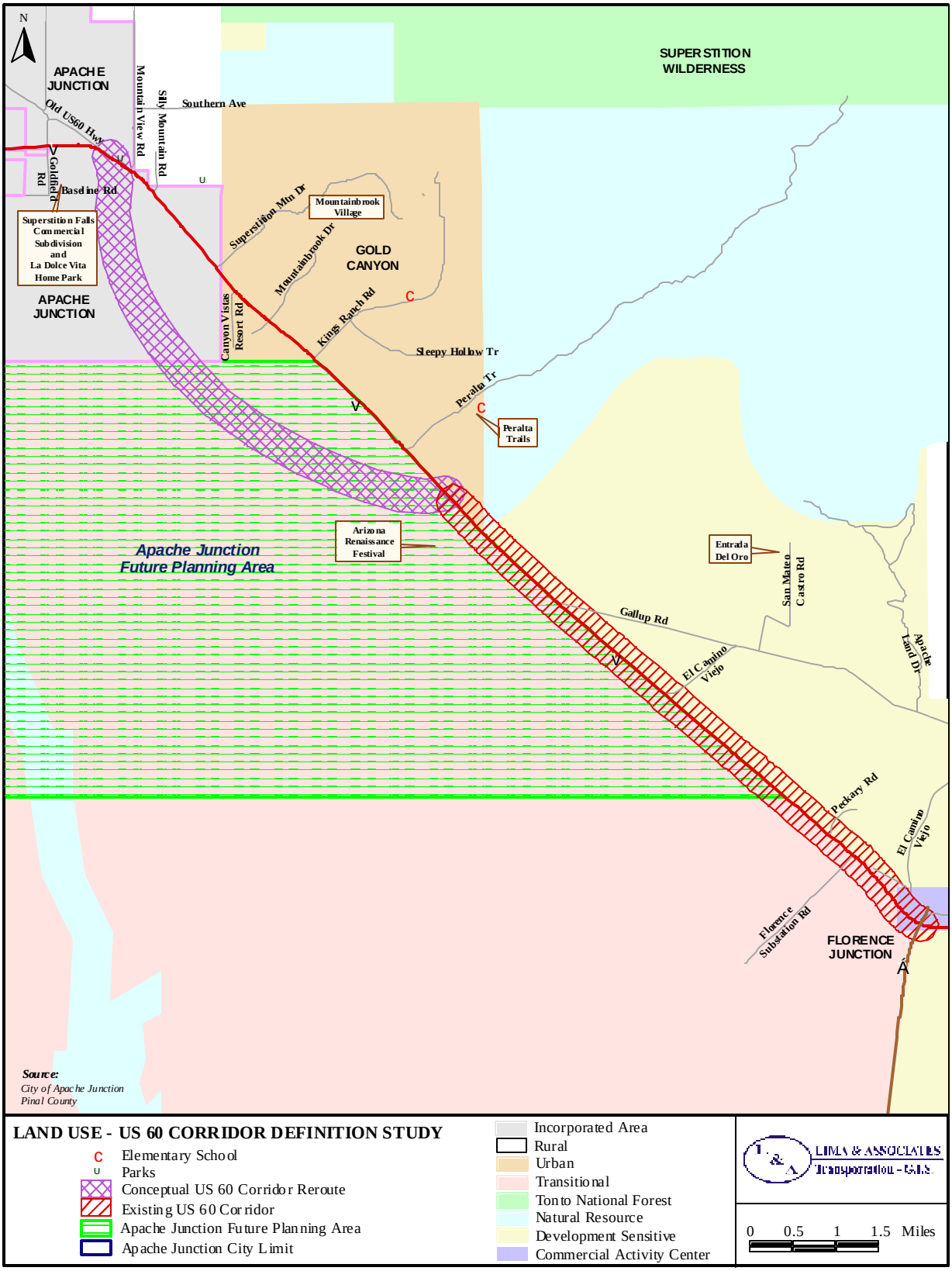
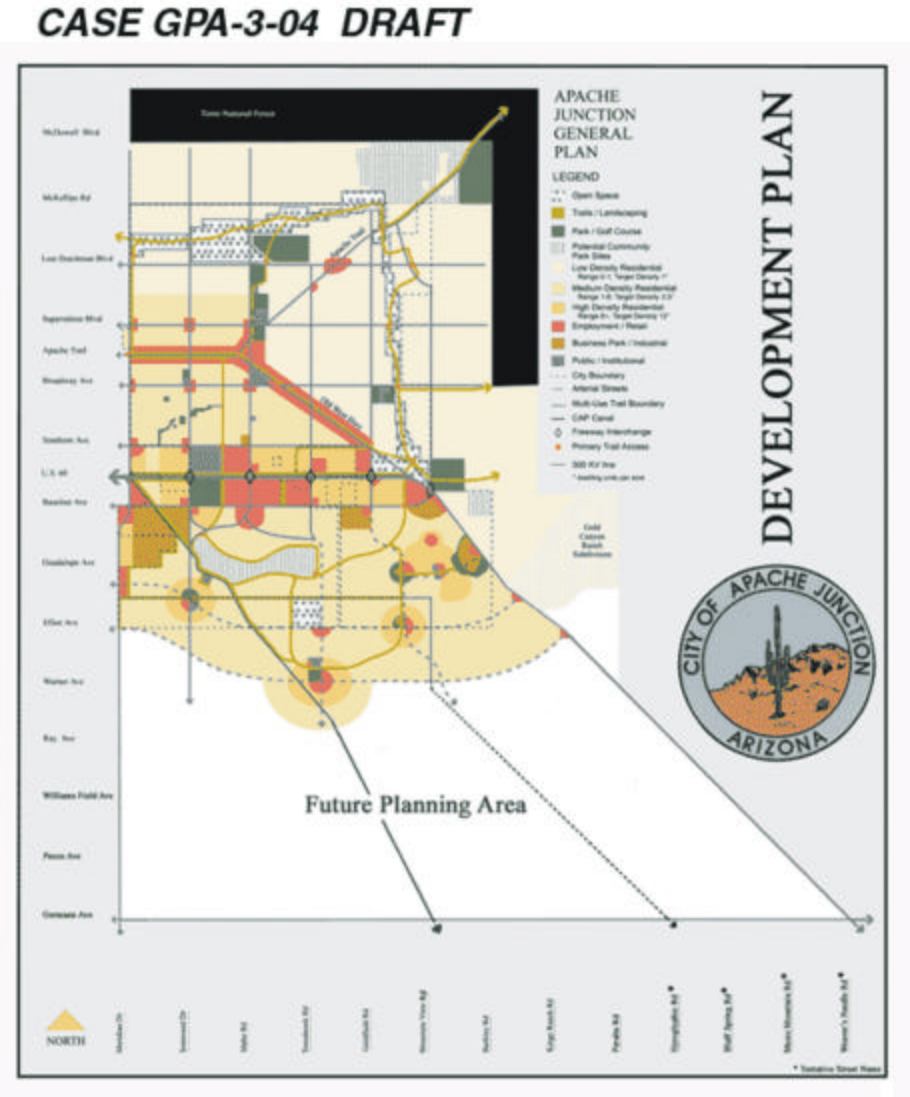


FIGURE 3-3. CITY OF APACHE JUNCTION DEVELOPMENT PLAN



Proposed residential developments include Peralta Trails Phases 1 and 2. Several large residential developments have been constructed in the recent past including:

- Superstition Mountain
- Mountain Brook Village
- Superstition Foothills
- Gold Canyon East
- Kings Ranch
- Mesa Del Oro
- Montessa (South of US 60)
- Hermosa Hills
- Mountain Whisper
- Fairway Views
- The Casas
- Golden Springs
- Hieroglyphic Trails
- Peralta Trails

There are also several large RV/Mobile Home parks and an adult community:

- Canyon Vistas RV Resort (MP 201.3)
- Gold Canyon RV Park (MP 201.9)
- Montessa Adult Community
- Sandpoint RV Resort (MP 201.5)
- Sand Tanks Mobile Home Park

Commercial developments include strip shopping centers, retail stores, gas stations, grocery and convenience stores, and a motel along existing US 60. In addition, several parks and golf courses are located adjacent to the roadway. The Arizona Renaissance Festival site is located east of Gold Canyon on the south side of US 60 under a thirty-year lease with the Arizona State Land Department. The Festival is held in February and March each year for eight straight weekends, including President's Day (Monday), on a site leased from the State Land Department near MP 205.3. This event attracts approximately 250,000 visitors annually, or an average of 14,706 visitors a day.

Future Proposed Developments

Most of the privately owned land within the study area is built out, except for some large parcels east of Gold Canyon. Any new major development will take place on these private parcels or on ASLD lands. Several developments are currently active or planned in the near future. Table 3-1 provides an overview of the active developments.

TABLE 3-1. ACTIVE OR PLANNED LAND DEVELOPMENT

	Development Name and Location	Construction Schedule	Existing Dwelling Units	Additional Dwelling Units
1	Entrada Del Oro, San Mateo Castro Rd	Active	0	1,088
2	Gold Canyon, Sleepy Hollow Trl & Kings Ranch Rd	Active	234	111
3	Gold Canyon East, Kings Ranch Rd & US 60	Active	123	268
4	Mountainbrook Village, Mountainbrook Dr & US 60	Built out	490	0
5	Peralta Trails, Peralta Trl & US 60	Active	361	650
6	Superstition Foothills, Superstition Mountain Dr	Active	675	531
7	Superstition Mountain, Superstition Mountain Dr	Active	94	321
8	Transitional Land, located East and West of US 60 between MP 203-204 on ASLD land	10-15 Years	0	5,760
9	Transitional Land, located East and West of US 60 between MP 200-201 on ASLD land	10-15 Years	0	2,100 per sq mi
10	Unnamed, Mountain View Rd	5-10 Years	0	12

Source: Central Arizona College Bond Feasibility Study Demographic Analysis, Applied Economics, May 2004

A few institutional or business sites are also planned. A high school is planned to be built at the northwest corner of US 60 and Peralta Trail. The developer of Entrada Del Oro donated 28 acres of land to the Apache Junction Unified School District as the site for a future elementary school. A fire station will be located at the southeast corner of US 60 and Mountainbrook Drive. A small airport is also proposed in the vicinity of Florence Junction.

Grazing Leases

Several ranchers control grazing lease rights issued by ASLD and BLM within the study area. Natural grazing land must have a minimum annual carrying capacity of 40 animal units per year to qualify as ranch property. Major area grazing operations include the Flake Ranch and Ellsworth Desert grazing lease areas southwest of US 60 and the Johnson Ranch grazing lease area northeast of the roadway. The Johnson Ranch operation covers about twenty-two sections of State Land.

Major Institutional Sites

Two elementary schools are located in Gold Canyon, and are within the jurisdiction of the Apache Junction Unified School District. Peralta Trail Elementary is located on Peralta Drive approximately one mile from US 60 and Gold Canyon Elementary is situated on Alameda Road, approximately one and one-half miles from US 60. Additional educational institutions including elementary, middle, and high schools, a Community College, and a 4-year University are located in the City of Apache Junction.

Zoning

Pinal County zoning classifications within the study area include general rural, low-density residential, and urban density. Zoning in the unincorporated community of Gold Canyon includes low-density residential and urban density.

Recreation & Tourism

US 60 functions as a primary recreational transportation study area for travel between the Phoenix Metropolitan Area, Florence Junction, Globe, Roosevelt Lake, and the White Mountains in northeastern Arizona. Annual events such as the Arizona Renaissance Festival, the International Traditions Golf Tournament held at the Superstition Mountain Golf Course, and the Lost Dutchman Marathon which begins on Peralta Trail, attract many visitors year round. Other popular trailheads reached from US 60 include those for Carney Springs and Lost Goldmine Trails.

DEMOGRAPHIC AND ENVIRONMENTAL JUSTICE CONSIDERATIONS

Population

Table 3-2 presents historical population data for the State of Arizona, Pinal County, City of Apache Junction, and Gold Canyon area. As shown in the table, the pace of growth between 1990 and 2000 in Pinal County and Apache Junction was significantly higher than for the State as a whole.

TABLE 3-2. CHANGES IN POPULATION

	Population				
	1990	2000	% Change 1990-2000	2004	% Change 2000-2004
Arizona	3,665,339	5,130,632	40.0%	5,832,150	13.7%
Pinal County	116,397	179,727	54.4%	218,285	21.5%
Apache Junction	18,092	31,814	75.8%	33,725	6.0%
Gold Canyon area	NA	6,015	NA	NA	NA

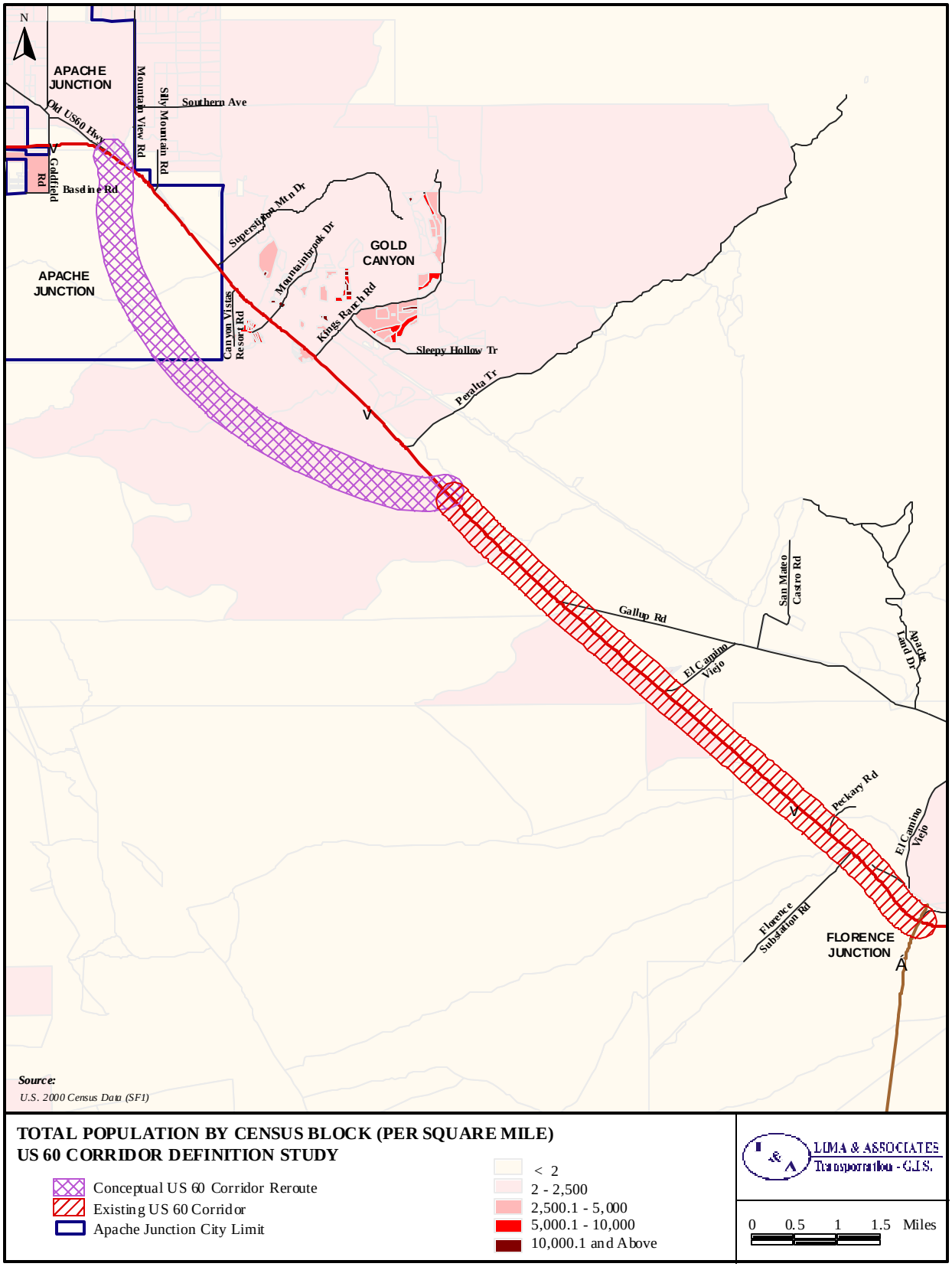
Source: Arizona Department of Economic Security (ADES), U.S. Census 2000 Redistricting Data (P.L. 94-171) Summary File
ADES, U.S.Census 2004 Estimates

Figure 3-4 shows the total population distribution in the vicinity of the Study area. The most populous area is in the City of Apache Junction west of Tomahawk Road. Pockets of highly populated areas are located in the vicinity of the unincorporated Town of Gold Canyon. Unpopulated areas exist in the northern and southeastern portions of the Study area. Low concentrations of population are found in the southwest portion of the Study area and north of Florence Junction.

Title VI and Environmental Justice Considerations

This section presents information on specific population segments including minorities, age, sex, mobility-limited, and below poverty level. Title VI of the Civil Rights Act of 1964 and related statutes ensure that individuals are not discriminated against based on race, color, national origin, age, sex, or disability. Executive Order 12898 on Environmental Justice dictates that any programs, policies, or activities to be implemented are not to have disproportionately high adverse human health and environmental effects on minority populations. Thus, in relation to this study, transportation improvements should not adversely impact such groups disproportionately. In addition to assuring that these policies are adhered to, a variety of possible alternatives should be developed and considered in order to make sure all groups are fairly represented in the amount and type of transportation services provided.

FIGURE 3-4. TOTAL POPULATION BY CENSUS BLOCK



ADOT issued a document entitled Guidance on Title VI and Environmental Justice to ensure that Title VI and Environmental Justice considerations are implemented during project development, Environmental Assessments, and Environmental Impact Statements. Even though the precise measures outlined in the Guidance may only apply directly to projects in the development and environmental stage, the same general approach can be utilized in this Study to help identify any related issues involved in the planning stage of potential projects.

Minority and Elderly Population

Table 3-3 displays the minority and elderly population in Arizona, Pinal County, Apache Junction, and Gold Canyon area. The percentage minority population in both Pinal County and Apache Junction are lower than the statewide percentage. The percentage of minorities in Gold Canyon is significantly lower than either the statewide or Pinal County percentages. However, the percentage of population 65 or over is significantly higher in Apache Junction and Gold Canyon.

TABLE 3-3. MINORITY AND ELDERLY POPULATION

	Total Population	Total Minorities	Percent Minorities	Total Age 65 +	Percent Age 65 +
Arizona	5,130,632	1,856,374	36.18%	667,839	13.02%
Pinal County	179,727	74,086	41.22%	29,171	16.23%
Apache Junction	31,814	3,847	12.09%	8,050	25.30%
Gold Canyon	6,015	337	5.60%	1,792	29.79%

Source: Arizona Department of Economic Security U.S. Census 2000 Data (SF1 data)

Figure 3-5 shows the distribution of total minority population within the area including the Study area. Several census blocks contain high percentages of minority population in the Gold Canyon area; however, absolute numbers might be low.

Figure 3-6 shows the distribution of the total population aged 65 years and older in the study area. Large concentrations of persons in this age group live in City of Apache Junction and in the Gold Canyon area. Low concentrations of age 65 and older population are found north of Florence Junction.

FIGURE 3-5. TOTAL MINORITY POPULATION BY CENSUS BLOCK

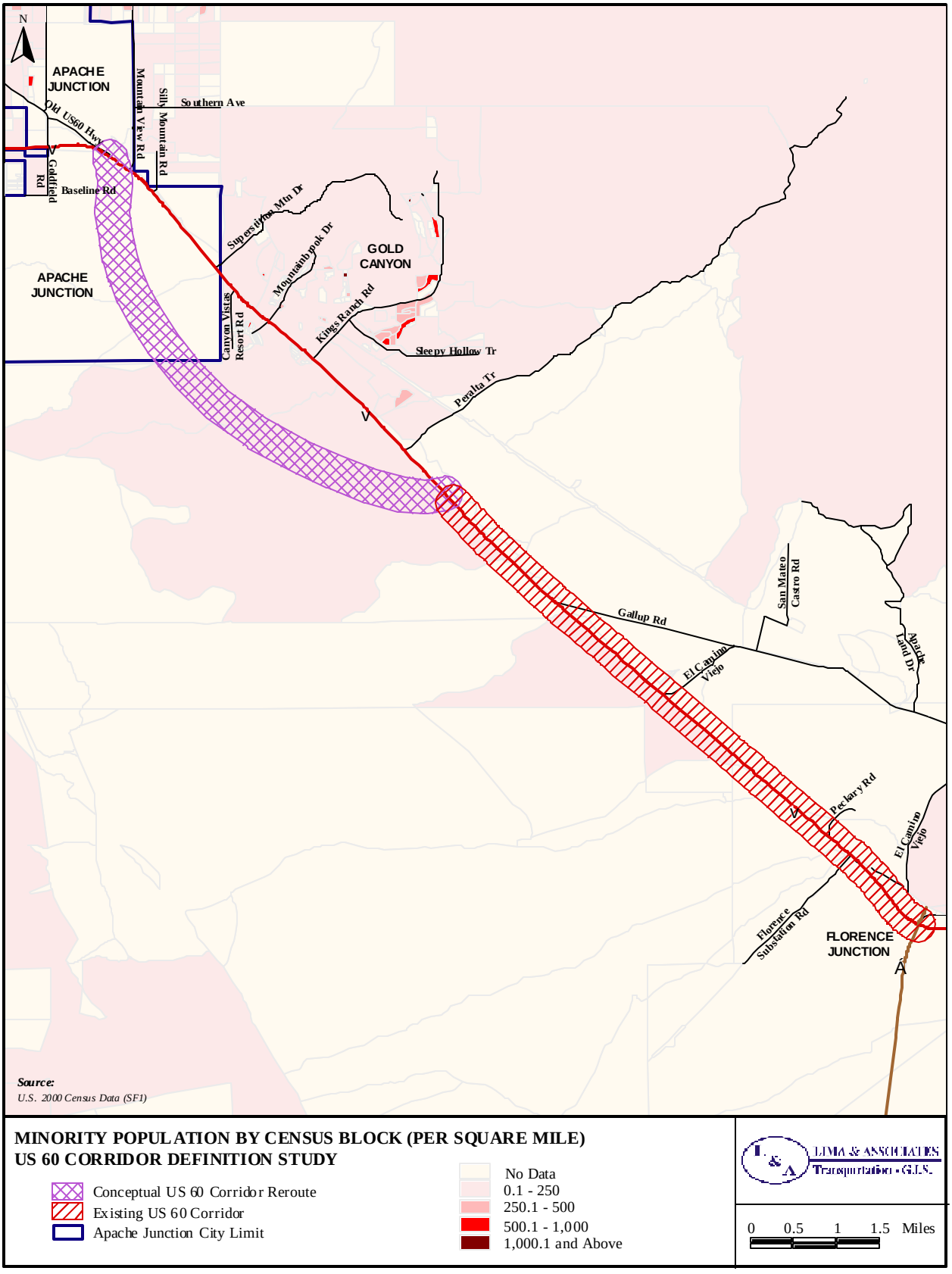
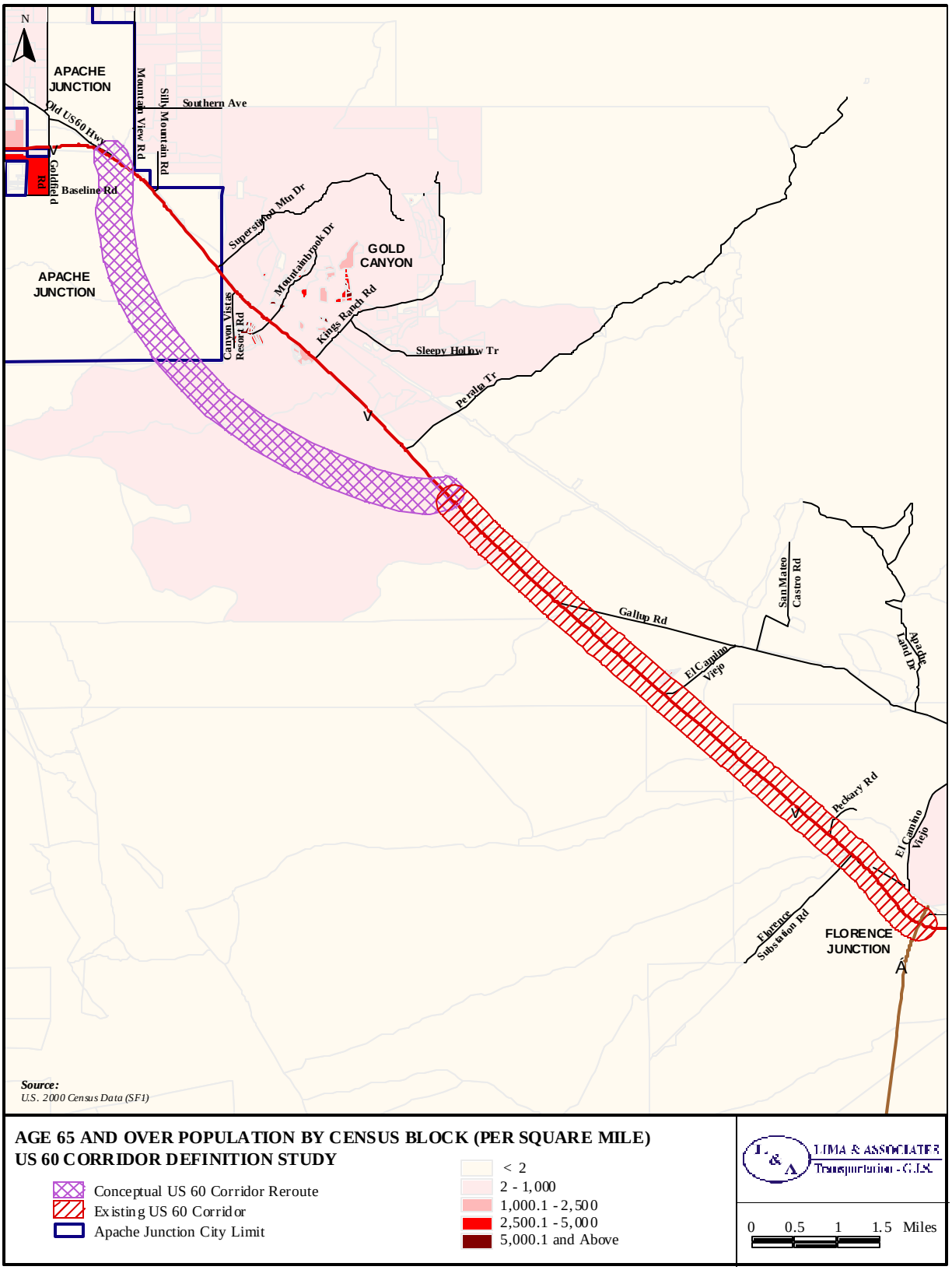


FIGURE 3-6. AGE 65 AND OVER POPULATION BY CENSUS BLOCK



Gender

Table 3-4 displays the population according to gender in Arizona, Pinal County, Apache Junction, and Gold Canyon area. The variance for the State of Arizona between the percentage of the population that is male and the percentage that is female is minimal. The variance for Pinal County shows the male population far greater (6.72 percent) than the female population. The City of Apache Junction and Gold Canyon areas' variances show the female population greater than the male population.

TABLE 3-4. GENDER

	Total Population	Total Males	Total Females	Percent Males	Percent Females
Arizona	5,130,632	2,561,057	2,569,575	49.92%	50.08%
Pinal County	179,727	95,830	83,897	53.32%	46.68%
Apache Junction	31,814	15,545	16,269	48.86%	51.14%
Gold Canyon Area	6,015	2,944	3,071	48.94%	51.06%

Source: Arizona Department of Economic Security U.S. Census 2000 Summary File 1

Mobility-Limited and Below Poverty Level Population

Table 3-5 presents the mobility-limited population, whose age ranges between 16 years old and 64 years old, in Arizona, Pinal County, and Apache Junction. The variation between the percentage of mobility-limited persons statewide, Pinal County, and Apache Junction is small. The higher percentage of mobility-limited persons in Apache Junction could be due to the higher percentage of persons 65 and older. Data on mobility-limited persons was not available at the Gold Canyon level.

The percentage of persons below poverty level in Pinal County is almost two percentage points over the statewide percentage, see Table 3-5. However, the percentage of persons below poverty level in Apache Junction is more than two percent less than the statewide percentage.

TABLE 3-5. MOBILITY-LIMITED AND BELOW POVERTY LEVEL POPULATION

	Total Population	Mobility Limited	Percent Mobility Limited	Total Below Poverty Level	Percent Below Poverty Level
Arizona	5,130,632	596,787	11.63%	698,669	13.61%
Pinal County	179,727	22,054	12.27%	27,816	15.48%
Apache Junction	31,814	4,411	13.86%	3,617	11.37%
Gold Canyon Area	6,015	NA	NA	NA	NA

Source: Arizona Department of Economic Security – U.S. Census 2000 Summary File 3

PHYSICAL CHARACTERISTICS OF THE STUDY AREA

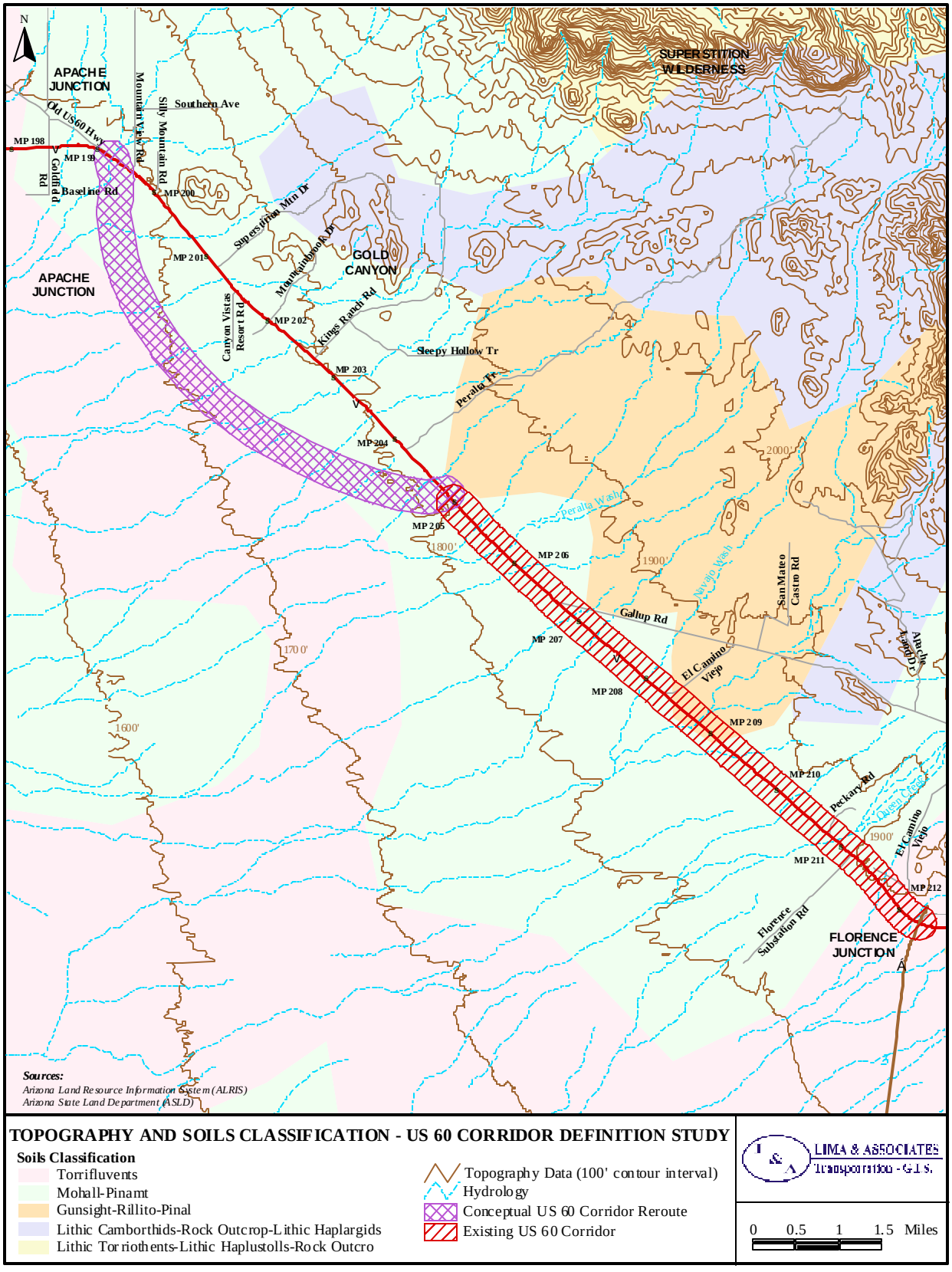
Geology

The Superstition Mountain Range is composed exclusively of volcanic rocks that erupted in mid-tertiary time, 35 to 15 million years ago, and emitted about 2,500 cubic miles of ash and lava. Afterwards, the roofs of partly emptied magma chambers collapsed, forming circular or oval calderas. Five overlapping calderas have been identified within the Superstition Mountain Range. The Superstition caldera was the largest, and was located north of the Study area. After the eruption and collapse of the Superstition caldera, a central up thrust of thick, dough-like lava created a resurgent dome. This dome now makes up most of the Superstition Mountains. Parts of the mountains are visible from US 60 southeast of Apache Junction. Thick layers of tuff stretching south from the resurgent dome now lie in a large syncline higher at its north end because of tilting during Basing and Range block faulting. Large alluvial fans below narrow canyons indicate the youthfulness of the range.

Topography and Soils Classification

The topography and soils classifications in the study area are presented in Figure 3-7. The area includes the alluvial fans southwest of the Superstition Mountains and can generally be described as a "Valley Topography" with slopes of no more than five percent. The elevation ranges from approximately 1,700 feet at the north end of the Study area near US 60 at MP-199.0 to approximately 1,900 feet at the southeast end of the study area near US 60 at MP-212.0, in generally flat terrain. The predominant soil classification is Moholl-Pinamt, known as a deep soil, nearly level to gently sloping soil formed in old mixed alluvium. A small area of the western edge of the study area lies on a soil classified as torrifluvents, which are recently deposited soils of alluvial plains. These soils make up a high proportion of irrigated soils in desert regions because they are normally located close to water, have gentle slopes, and deep, medium textured profiles. Moholl-Pinamt and torrifluvents soils are suitable for large scale development.

FIGURE 3-7. TOPOGRAPHY AND SOILS CLASSIFICATION



Environmental Conditions

The environmental conditions map shown in Figure 3-8 illustrates the natural vegetation, endangered species, hydrology, hazardous sites, and mining operations.

Natural Vegetation and Wildlife

The undeveloped lands within the study area are undisturbed desert. The natural vegetation of the majority of the study area is characteristic of the Arizona Upland Sonoran Desert Scrub. The dominant perennial species include foothills palo verde, creosote bush, and triangle leaf-bursage along with numerous cacti from the prickley-pear, cholla, and barrel cactus groups. Landscape elements receiving additional runoff water also support more mesic species including mesquite and ironwood. A small area of vegetation classified as Lower Colorado River Sonoran Desert Scrub covers a small area of the study area. The species include agave, assorted grasses, catclaw acacia, creosote bush, triangle leaf bursage, and white bursage. Species that are predominantly present within the larger drainage ways include blue palo verde, desert willow, ironwood, and western honey mesquite.

The geographic size of riparian scrub communities is small within the study area. They are located near springs and along ephemeral streams. These riparian communities play important roles in the feeding, nesting, resting, and travel of wildlife species.

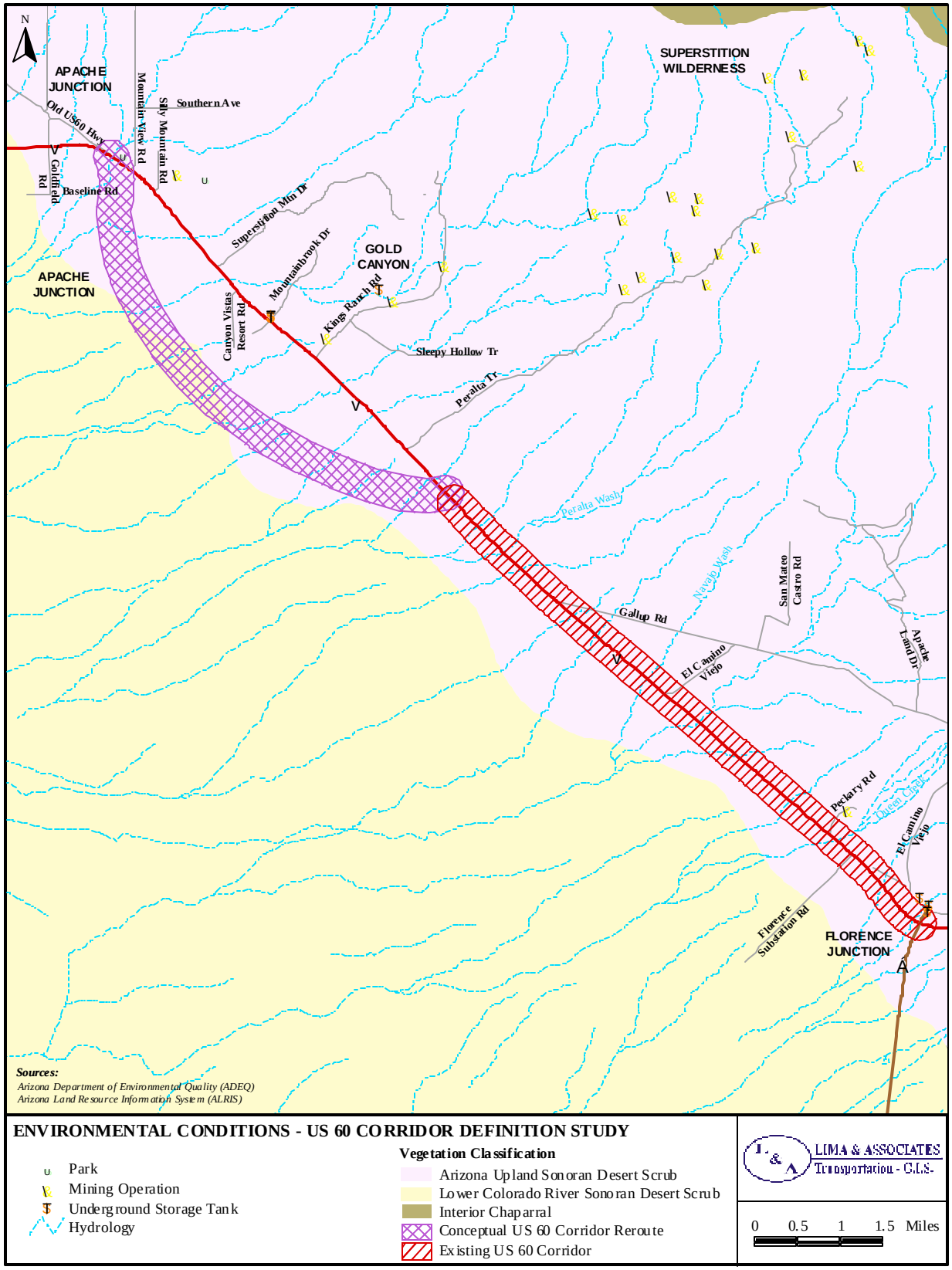
Habitats within the Sonoran Desert Scrub vegetation support numerous smaller mammals, birds and reptiles. A variety of mammals including the black-tailed jack rabbit, coyote, javelina, pocket mouse, and round-tailed ground squirrel live in this area. Bird species include the cactus wren, mourning dove, and Gambels' quail. Reptiles such as snakes and lizards are also present in this area. Occurrences of black hawks and desert bighorn sheep have been documented in the study area.

Threatened, Endangered and Sensitive Species

The Arizona Game and Fish Department stated in a letter dated March 4, 2005, that the Heritage Data Management System's current records, which were updated in 2002, do not indicate the presence of any special status species in the vicinity of the study area. In addition, there is no designated or proposed critical habitat. The Department's letter is included in Appendix A.

Previous studies have stated that the Cactus Ferruginous Pigmy-Owl (Glaucidium brasilianum cactorum) was listed as an endangered species by the U.S. Fish and Wildlife Service in 1997. The critical habitat of this federally endangered Pigmy-Owl was designated in 1999 in Pinal County, located in the north and east portion of the study area.

FIGURE 3-8. ENVIRONMENTAL CONDITIONS



A representative from the Department was contacted to clarify the status of the federally endangered Pigmy-Owl. The representative reported that the Cactus Ferruginous Pigmy-Owl has not been present in the vicinity of the study area for the last 50 years, and that this specie was removed from the database in 2002. In addition, the representative added that there is the potential habitat of four sensitive species in the study area including Western Yellow-billed Cuckoo, American Peregrine Falcon, Pima Indian Mallow, and Sonoran Desert Tortoise.

Archeological Sites

Previous surveys conducted for the potential US 60 reroute indicate that 26 recorded archaeological sites were located within a one-mile radius of the reroute alignment. Of those, a total of nine archeological sites are located within the project area. The most likely areas of potential archaeological sites are in areas within the floodplains and washes.

Drainage and Hydrology

The drainage within the Study area is characterized by washes that drain out of the Superstition. Mountains into the valley floor through fan shaped areas of alluvial deposits. While the direction of drainage is generally southwesterly, the washes within the alluvial fans are not always clearly defined and floodplains are not easily delineated. Several of these drainages are considered areas of potential flood hazard by the Federal Emergency Management Agency (FEMA). FEMA designates Peralta Wash, Navajo Wash, and Queen Creek as a "Zone A" flood area, where flooding has a one percent change of occurring in any given year.

The Central Arizona Project (CAP) Canal runs in a north-south direction approximately three miles west of US 60. A levee is located along the east edge of the CAP canal.

Hazardous Sites

The City of Apache Junction active landfill is located on Tomahawk Road approximately two miles west of the study area. Underground storage tanks are present along US 60 near Mountainbrook Drive in the unincorporated town of Gold Canyon, and on US 60 around MP 212.0 in the Florence Junction area.

Mining Operations

Mining operations exist in the vicinity of the Study area. Several mining operations are located along Kings Ranch Road in the unincorporated town of Gold Canyon. A mining operation is present on Peckary Road near US 60 at MP 208.8.

4. CURRENT ROADWAY AND TRAFFIC CHARACTERISTICS

The current roadway and traffic characteristics of US 60 within the study area, are presented in this chapter. An overview of the current roadway characteristics, conditions, traffic characteristics, crash analysis, and level of service follows.

CURRENT ROADWAY CHARACTERISTICS

US 60 is a major arterial highway carrying interstate, regional, and local traffic. The highway provides local access to the residents and business in Gold Canyon as well as east-west through traffic. US 60 also provides direct access to the Renaissance Festival site on the south side of the highway. Just east of Goldfield Road, US 60 makes a transition from a freeway facility to a four-lane divided highway. The terrain along US 60 varies from flat terrain at the end of the Superstition Freeway to rolling terrain in the vicinity of Florence Junction. The existing roadway is a four-lane divided highway with 12 foot travel lanes within an access controlled 300 foot right-of-way. A wide median separates the east and west bound travel lanes generally by a distance of 100 feet. Four at-grade signalized intersections are located in Gold Canyon between Mountain View Road and Kings Ranch Road.

Speed Limits

Speed limit data was collected during a field view and is summarized in Table 4-1. The posted speed limit is 55 miles per hour (mph) from Goldfield Road (MP 198.4) to Kings Ranch Rd (MP 202.7). The speed limit increases to 65 mph south of Kings Ranch Road.

TABLE 4-1. SPEED LIMIT

Milepost (Approximate)	Street Name	Speed Limit (mph)
198.42 to 201.35	Goldfield Road to Superstition Mountain Drive	55
201.35 to 201.85	Superstition Mountain Drive to Mountain Brook Drive	55
201.85 to 202.70	Mountain Brook Drive to Kings Ranch Road	55
202.70 to 212.23	Kings Ranch Road to Florence Junction	65

Source: Lima & Associates Field Review

Utilities

As shown in the 1999 draft environmental assessment of US 60 the existing utilities in the vicinity of the study area include:

- Arizona Water Company, Water line
- Salt River Project (SRP) Electric, Overhead and underground electric
- US West, Overhead and underground telephone
- Gold Canyon LLC, Underground sewer
- Silver Springs Cable, Overhead cable television (on SRP poles)
- Southwest Gas, Natural gas main
- Lyle Anderson Companies, Central Arizona Project (CAP) water line
- Superstition Mountain LLC, CAP water line
- Realty Dealers Ltd., Water line
- TRIX Cable, Overhead cable television (on SRP poles)

Access and Traffic Controls

An inventory of driveways, intersections, and crossovers on US 60 was conducted based on a filed view and use of aerial photographs, see Table 4-2. Photographs taken during the field review are displayed in Appendix B. Four traffic signals are located along the existing highway between Mountain View Road and Kings Ranch Road. Eight stop signs regulate driveway access points, including three on the eastbound and five on the westbound. One yield sign is located on Peralta Trail to enter westbound on US 60. A number of crossovers are located between MP 199.0 and MP 212.0, some of them are less than one-half mile apart.

State Transportation Board Access Control Resolution

The Arizona State Transportation Board adopted a resolution on November 20, 1998, designated US 60 as an access controlled highway. The resolution established access control on US 60 from the terminus of the Superstition Freeway in Apache Junction to the Tonto National Boundary and authorized the Director of ADOT to acquire right-of-way for access control. This study will examine the need to implement access control along existing US 60 and the procedures for implementing access control.

PAVEMENT CONDITIONS

2003 Pavement Condition

The pavement condition data for US 60 was obtained from the Arizona Pavement Management System (PMS). The PMS rating system for highways is presented in Table 4-3. The lowest pavement rating represents the best conditions. A rating above fifteen indicates that the roadway may require rehabilitation. Higher ratings indicate worse pavement conditions. Pavement rehabilitation includes minor resurfacing, mill and replacement, or complete reconstruction of the pavement. Further evaluation by ADOT is required to determine the condition of the pavement and strategy for rehabilitation the pavement.

TABLE 4-2. ACCESS POINTS AND TRAFFIC CONTROLS

Milepost (Approximate)	Side of Highway	Description	Traffic Control
199.0	West	Access to Old US 60 Highway	None (Ramp)
199.6	West	Mountain View Road	Traffic Signal
200.0	West	Silly Mountain Road, No Crossover	Stop Sign
200.5	None	Crossover only	NA
201.1	West	Driveway; No Crossover	None
201.2	West	Superstition Mountain Drive	Traffic Signal
201.3	West	Driveway; No Crossover	Stop Sign
201.4	West	Driveway; No Crossover	None
201.5	Both	EB Driveway; No Crossover WB Driveway; No Crossover	EB Non WB Stop Sign
201.6	East	Canyon Vista Way; No Crossover	Stop Sign
201.8	East	Driveway to Commercial Strip	None
201.95	West	Texaco Star Mart Driveway; No Crossover	None
202.0	Both	Mountainbrook Drive	Traffic Signal
202.3	East	Driveway; No Crossover	Stop Sign
202.7	West	Kings Ranch Road	Traffic Signal
203.3	None	Crossover only	NA
204.2	West	Peralta Trail	EB Yield Sign WB Stop Sign
204.7	None	Crossover only	NA
205.1	East	Driveway	Stop Sign
205.3	East	Driveway; No Crossover	Stop Sign
206.0	None	Crossover only	NA
206.5	None	Crossover Only	NA
207.0	Both	Driveways	None
207.4	None	Crossover Only	NA
207.5	West	Fenced Driveway; No Crossover	None
207.6	East	Driveway; No Crossover	None
207.7	West	Driveway; No Crossover	None
207.8	Both	WB Driveway to mobile home park EB Driveway to JP Trailer Sales	WB Stop Sign EB None
208.3	West	El Camino Viejo	Stop Sign
208.6	None	Crossover Only	NA
209.1	None	Crossover Only	NA
209.7	None	Crossover Only	NA
210.0	West	Driveway	None
210.2	None	Crossover Only	NA
210.8	West	Peckary Road – Queen Creek Gravel Plant; no crossover	Stop Sign
212.2	East	Driveway to Substation; No Crossover	None
212.2	Both	SR 79	None (Ramp)

Sources: Pinal County Planning Department (Aerials dated December 2003)
Lima & Associates Field Review

Note: Intersecting roads and driveways are accompanied by median crossovers unless noted otherwise

TABLE 4-3. ARIZONA PAVEMENT MANAGEMENT SYSTEM RATING SYSTEM

Pavement Rates	Category
0 - 15.0	1
15.1 – 20.0	2
20.1 – 25.0	3
Above 25.0	4

Source: ADOT Pavement Management Section

Pavement conditions are summarized for the eastbound and westbound directions in Table 4-4. The highest pavement ratings for the eastbound direction of US 60 are located between MP 201.0 and Mountainbrook Drive at MP 202.0, and between MP 203.0 and MP 208.0. The highest pavement ratings for the westbound direction of US 60 are south of Silly Mountain Road at MP 199.0 until MP 208.0.

TABLE 4-4. US 60 PAVEMENT CONDITION

Begin Milepost	End Milepost	Direction	Rate	Category
198	199	Eastbound	10.65	1
198	199	Westbound	10.54	1
199	200	Eastbound	15.47	2
199	200	Westbound	31.41	4
200	201	Eastbound	20.47	3
200	201	Westbound	45.87	4
201	202	Eastbound	16.44	2
201	202	Westbound	25.71	4
202	203	Eastbound	23.42	3
202	203	Westbound	29.03	4
203	204	Eastbound	22.90	3
203	204	Westbound	25.24	4
204	205	Eastbound	60.38	4
204	205	Westbound	32.76	4
205	206	Eastbound	26.03	4
205	206	Westbound	24.88	3
206	207	Eastbound	26.44	4
206	207	Westbound	25.02	4
207	208	Eastbound	26.94	4
207	208	Westbound	25.52	4
208	209	Eastbound	8.60	1
208	209	Westbound	10.95	1
209	210	Eastbound	8.18	1
209	210	Westbound	6.68	1
210	211	Eastbound	10.64	1
210	211	Westbound	5.38	1
211	212	Eastbound	NA	NA
211	212	Westbound	NA	NA

Source: ADOT Pavement Management Section (2003 data)

Programmed Projects

Currently, ADOT's Five Year Transportation Facilities Construction Program 2005-2009 does not specify any particular projects within the study area. The project closest to the immediate vicinity of the study area begins at Florence Junction (MP 212.17) and continues for six miles eastward. The project is to reconstruct and widen the roadway as a four lane divided highway at a cost of $37,000,000. The work is programmed for fiscal year 2006. The Arizona State Transportation Improvement Program 2005-2009 lists a Pinal County design project on Mountain View Road in the vicinity of the study area.

CURRENT TRAFFIC CONDITIONS

The operation of a street or highway is described by level of service (LOS), a qualitative indication of operations based on performance factors such as speed, travel time, maneuverability, and delay. The level of service of a facility is designated as a letter, A to F, with LOS A representing the best operating conditions (generally uninterrupted conditions) and LOS F representing the worst (congested conditions). Generally, a level of service in the range of LOS C to D is desirable for urban conditions and LOS B to C is desirable for rural conditions. The current LOS on roadway segments of US 60 from Goldfield Road to SR 79 was estimated using methods in the *Highway Capacity Software (HCS)* based on *2000 Highway Capacity Methods (HCM)*. Figure 4-1 presents US 60 existing traffic conditions.

Traffic Volumes and Analysis Parameters

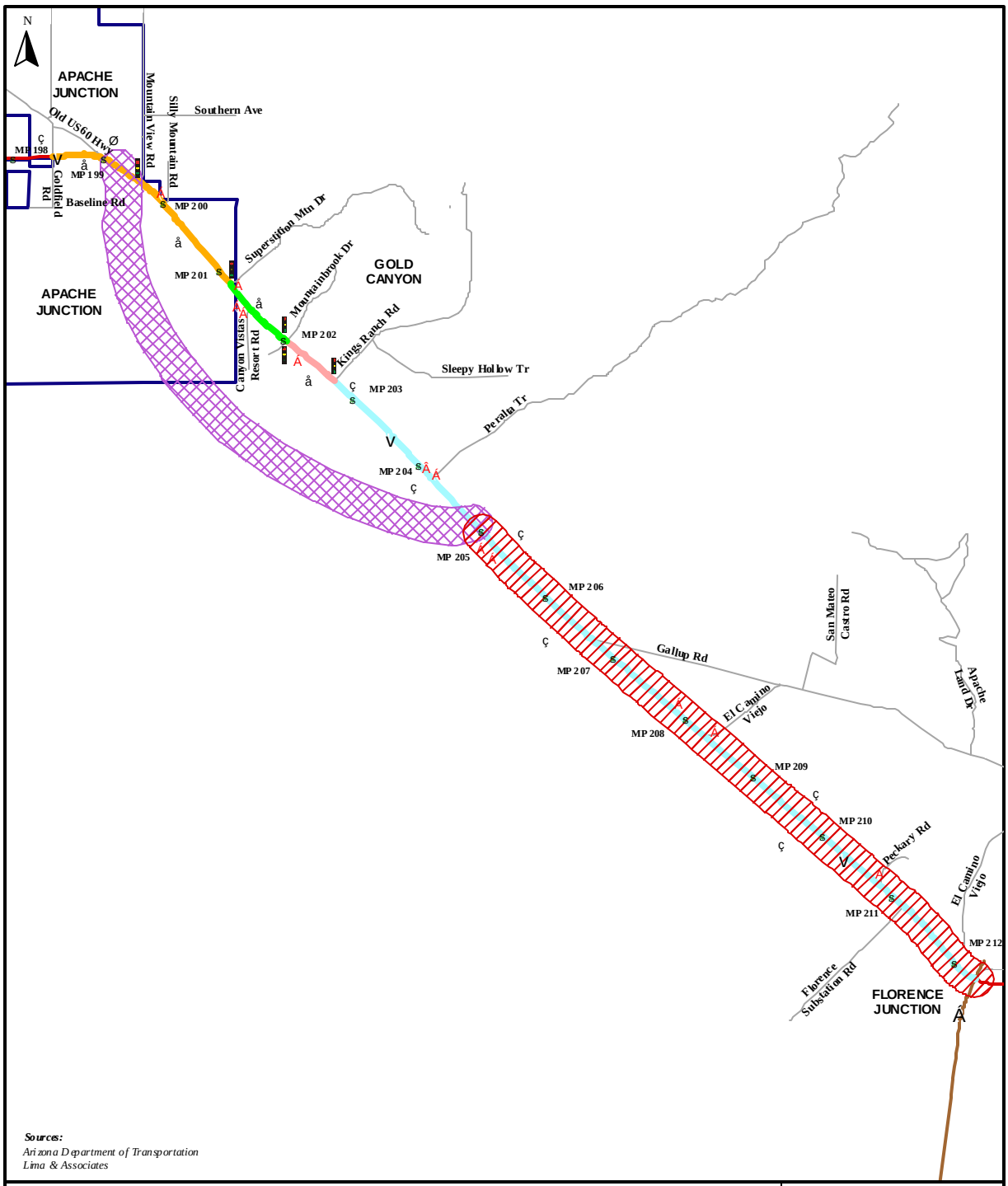
Traffic volume counts were taken April-May 2004 by the Arizona Department of Transportation (ADOT) Data Team. The actual traffic counts were adjusted by Lima & Associates using ADOT seasonal and day-of-the-week adjustment factors. Table 4-5 presents the Average Annual Daily Traffic (AADT) for the segments between Goldfield Road and SR 79, Florence Junction.

TABLE 4-5. US 60 AVERAGE ANNUAL DAILY TRAFFIC

Segment	Total Daily Annual Average Traffic (Vehicles per Day)
Goldfield Rd. to Gold Canyon Rd.	31,600
Gold Canyon Rd. to Mountain Brook Dr.	28,000
Mountain Brook Dr. to Kings Ranch Rd.	24,800
Kings Ranch Rd. to SR 79, Florence Jct.	14,000

Source: 2004 Traffic Counts Obtained from ADOT's Data Team and adjusted to Average Annual Traffic Volumes by Lima & Associates

FIGURE 4-1. EXISTING TRAFFIC CONDITIONS



Peak-hour traffic volumes were estimated based on a truck percentage (T) of 17 percent and a design-hour factor (K) of 9 percent, obtained from the Arizona State Highway System KDT tables. A directional factor (D) was calculated for each segment based on the collected traffic counts.

Description of Segments

LOS was analyzed for three roadway segments displayed in Table 4-6. The table also presents the roadway and traffic conditions for each segment. Each of the segments is described below.

TABLE 4-6. SEGMENT CHARACTERISTICS

Segment	Seg. Length	Access Density	Parking	Sep. Left Turn	Signals/ Mile	Speed Limit	Ped. Activity
Goldfield Rd. to Superstition Mtn. Dr.	2.93 Miles	Very Low	No	Yes	1	55 mph	None
Superstition Mtn. Dr. to Kings Ranch Rd.	1.35 Miles	Low	No	Yes	2	55 mph	None
Kings Ranch Rd. to SR 79, Florence Jct.	9.53 Miles	Low	No	Yes	0	65 mph	None

Goldfield Road to Kings Ranch Road

Just east of Goldfield Road, US 60 makes a transition from a freeway facility to a four-lane divided highway with four at-grade intersections located between Mountain View Road and Kings Ranch Road. The four signalized intersections are located at Mountain View Road, Superstition Mountain Drive, Mountain Brook Drive, and Kings Ranch Road, with a spacing of one to two miles. The intersection approaches include two through-lanes and left-turn lanes. The posted speed limit between Goldfield Road and Kings Ranch Road is 55 mph.

Kings Ranch Road to SR 79

US 60 between Kings Ranch Road and SR 79 is a four-lane rural divided highway controlled by stop signs on the cross streets. The posted speed limit is 65 mph. Current adjacent development is very low density, predominantly on the north side. The Renaissance Fair Site is located on the Southside of US 60 just east of Milepost 205.

Level of Service Analysis

The section of US 60 between Goldfield Road and Kings Ranch Road currently operates as a high speed expressway or principal arterial with signalized intersections. Therefore, the

roadway was analyzed as a Class I Urban Street with the methods described in the *Urban Streets Chapter* of the *Highway Capacity Manual.* High speed principal arterials have the following characteristics: very low access density, no parking, separate left-turn lanes, no pedestrian activity, low roadside development, signal density that ranges from 0.5 to 2 signals per mile, and speed limit between 45 and 55 mile per hour. The criterion for estimating LOS for an urban street is average travel speed on the roadway segment.

US 60 from Kings Ranch Road to SR 79, Florence Junction was evaluated as a four-lane multilane highway using the methods in *Multilane Highways Chapter* of the *HCM*. Multilane highways typically have posted speed limits ranging between 40 to 55 miles per hour, a total of four- or six-lanes, and traffic volumes typically ranging between 15,000 to 40,000 vehicles per day. Multilane highways can be divided, undivided, or have two-way left-turns, and have at-grade intersections. This roadway segment does not have traffic signals, bus stops, on-street parking, or pedestrian activity. The primary criterion for estimating LOS for multilane highways is traffic density and number of vehicles per mile per lane.

Table 4-7 displays the levels of services for segments between Goldfield Road and SR 79.

TABLE 4-7. US 60 LEVEL OF SERVICE
AVERAGE DAY

Segment	Analysis Type	Average Travel Speed	DDHV Per Lane*	LOS
Goldfield Rd. to Superstition Mountain Dr.	Urban Street	43.3 mph	796 vphpl	A
Superstition Mountain Dr. to Kings Ranch Rd.	Urban Street	29.5 mph	606 vhhpl	C
Kings Ranch Rd. to SR 79, Florence Jct.	Multilane Highway	N/A	320 vphpl	A

DDHV – Directional design hourly volume per lane
vphpl – vehicle per hour per lane

CRASH ANALYSIS

Overview

Crash data was provided by the Arizona Location Identification Surveillance System (ALISS) for US 60 for a five-year period from August 2, 1999 to July 8, 2004. A total of 491 crashes occurred between MP 199.0 and MP 212.0 in the analysis period, as summarized in Table 4-8. Approximately 32 percent of the crashes on US 60 were intersection-related while crash locations were unevenly distributed between the highway's westbound (46.11 percent) and eastbound lanes (53.89 percent).

TABLE 4-8. RELATIONSHIP OF US 60 INTERSECTION RELATED CRASHES TO TOTAL CRASHES (MP 199 to MP 212)

Intersection Related Crashes	No. of Crashes	Percent of Total
Intersection Related	157	31.98
Non-Intersection Related	334	68.02
Westbound	*154*	*46.11*
Eastbound	*180*	*53.89*
Total	**491**	**100.00**

Source: ADOT ALISS, August 2, 1999 to July 8, 2004

Crash Type

The highest number of crashes (38.09 percent) were single vehicle collisions, followed by rear-end collisions (37.27 percent), angle (12.02 percent), sideswipe (8.56 percent), and other crashes (2.44 percent). The remaining 1.62 percent includes left turn, head-on, backing, u-turn, and non-contact crashed.

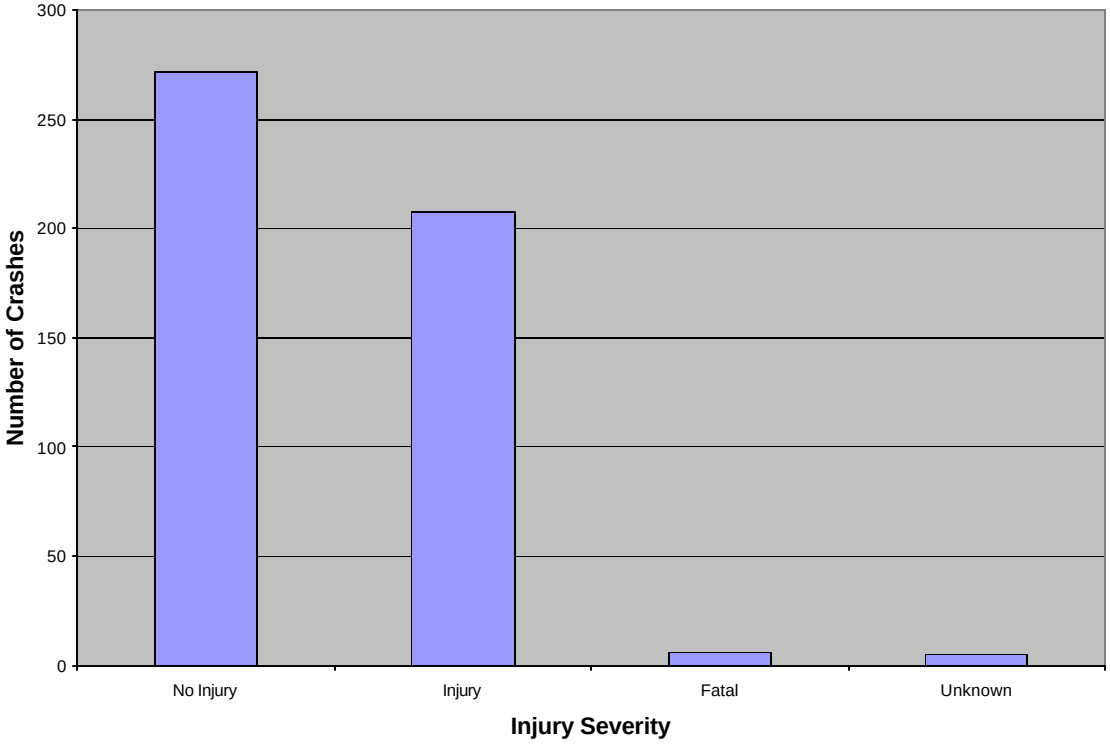
Injury Severity

Figure 4-2 lists the severity of injuries resulting from the crashes. The majority of the crashes, or 56.42 percent, resulted in no injuries, or injuries that were not reported. Six crashes, 1.22 percent of the total, resulted in fatalities, and another 31 crashes, or 6.31 percent of the total, led to incapacitating injuries. Possible and non-incapacitating injury crashes account for another 36.05 percent of the total. Three of the six fatalities occurred on the northwest-bound lanes of the highway at mileposts 199.9, 210.6, and 210.9. One fatality occurred at milepost 204.2 at the Peralta Trail intersection. The last two fatalities took place at milepost 212.23 at the SR 79 intersection, Florence Junction.

Crash Rates

Table 4-9 summarizes the average crash rates for the 5-year period by roadway segments along US 60. The analysis is based on traffic volumes provided by ADOT and adjusted by Lima & Associates. A three percent-per-annum reduction was applied to year 2004 volumes to obtain estimated volumes for 1999, 2000, 2001, 2002, and 2003. Figure 4-3 illustrates the average crash rates for US 60 for each year of the 5-year period. The roadway section between mileposts 202.71 and 212.23 had the highest crash rate, 1.25 crashes per million vehicle miles traveled (MVMT). The section between mileposts 201.86 and 202.70 had a crash rate of 1.15 MVMT and the section between mileposts 198.42 and 201.35 had a crash rate of 1.03 MVMT.

FIGURE 4-2. US 60 CRASH INJURY SEVERITY



Source: ADOT ALISS, August 2, 1999 to July 8, 2004

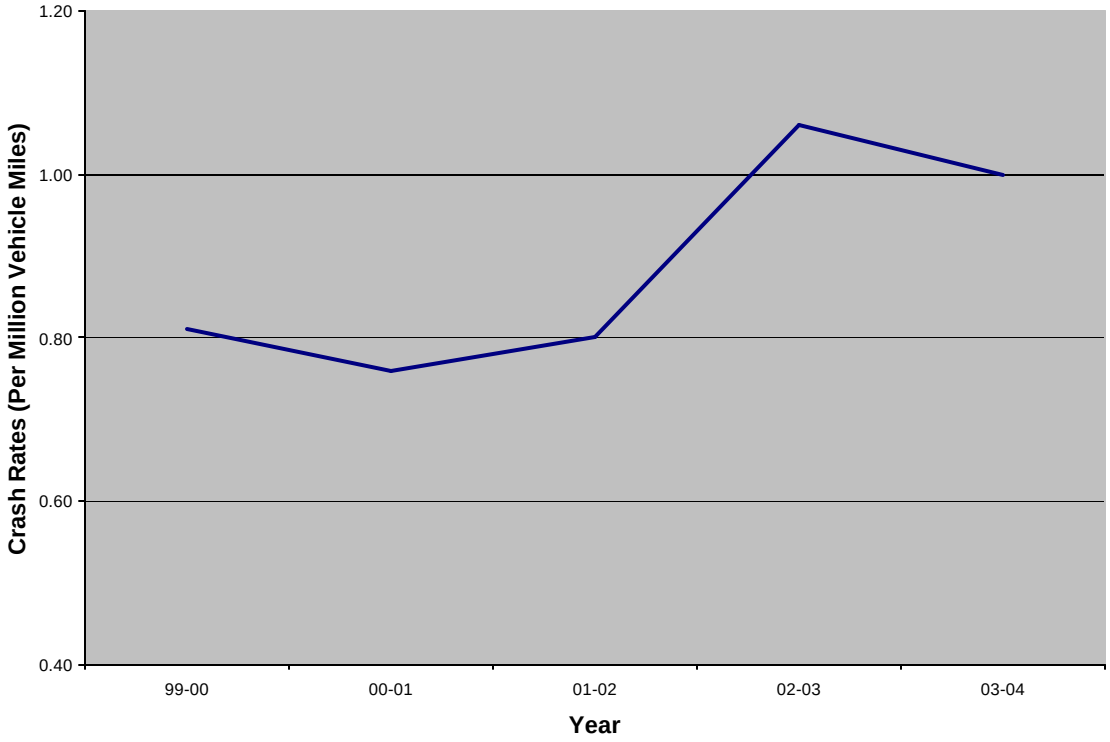
TABLE 4-9. US 60 CRASH RATES

Beginning Milepost	Ending Milepost	Length (miles)	Total Crashes	Traffic Volume	Crash Rate
198.42	201.35	2.93	164	29,789	1.03
201.36	201.85	0.49	1	26,404	0.04
201.86	202.70	0.84	41	23,343	1.15
202.71	212.23	9.52	285	13,152	1.25

Notes: Crash rate is the number of crashes per million vehicle miles traveled
Assumed 3% reduction per year from year 2004 to obtain volumes for 1999, 2000, 2001, 2002, and 2003

Figure 4-3 illustrates the trend of the crash rates over the five-year analysis period.

FIGURE 4-3. AVERAGE CRASH RATES BY YEAR
US 60 (MP 198.42 To MP 202.71)



Source: Lima & Associates computed rates based on ADOT ALISS, August 2, 1999 to July 8, 2004

SUMMARY OF CRASH ANALYSIS

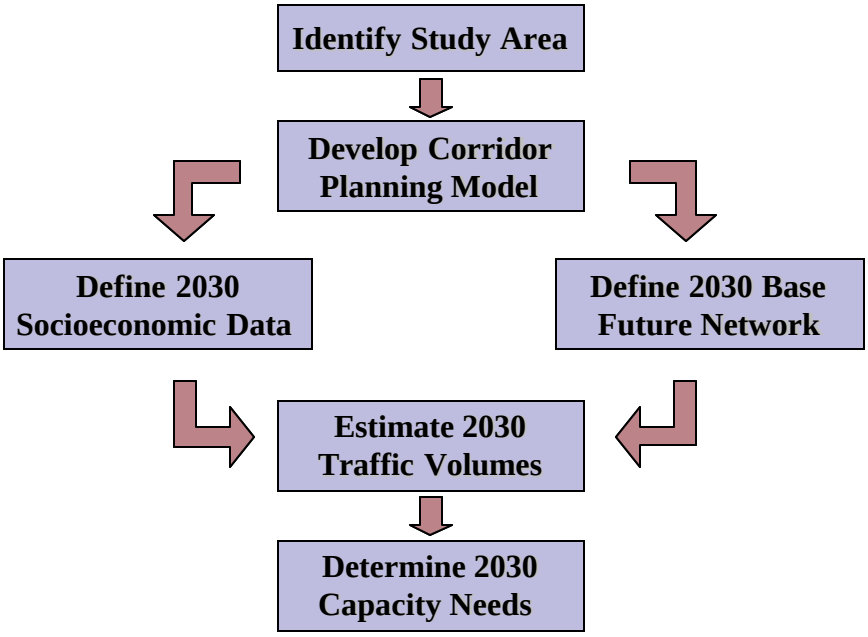
The crash analysis indicated that 491 crashes occurred over a 5-year period from August 2, 1999 to July 8, 2004. Of the total crashes, approximately 32 percent of the total crashes were intersection related. About 42 percent of the total crashes involved injuries. The crash rates ranged from almost zero to 1.25 crashes per million vehicle miles traveled for four roadway segments. The average crash rate from MP 198.42 to 202.71 has been relatively stable over the five-year period varying from 0.81 in the 1999 to 2000 period to 1.06 in the 2002 to 2003 period.

The US 60 crash rates were compared to rates on US 95 in the vicinity of Lake Havasu City. For a period between January 1, 1999 and December 31, 2001, the crash rate on SR 95 south of Lake Havasu City was 1.26 crashes per million vehicle miles traveled and 0.86 crashes per million vehicle miles traveled north of Chenoweth Drive in the north side of the City. Within the Lake Havasu City, crashes rates varied from 1.04 to 8.73 crashes per million vehicle miles traveled.

5. FUTURE ROADWAY NEEDS

This chapter discusses the evaluation of 2030 roadway needs in the US 60 study area. Figure 5-1 presents the process for determining roadway needs. Roadway needs were analyzed within the context of a larger area for the three ADOT Study area Definition Studies, referred to as the model area. The model area, illustrated in Figure 5-2, encompasses portions of southeastern Maricopa County and northern Pinal County. A Pinal County Planning Model (PCPM) was developed for the study area to estimate the 2030 travel demand based on the projected 2030 socioeconomic data and a 2030 base roadway network. The 2030 daily traffic volumes were then compared to the capacity of the roads in the base network to identify roadway capacity needs.

FIGURE 5-1. PROCESS TO ESTIMATE ROADWAY NEEDS

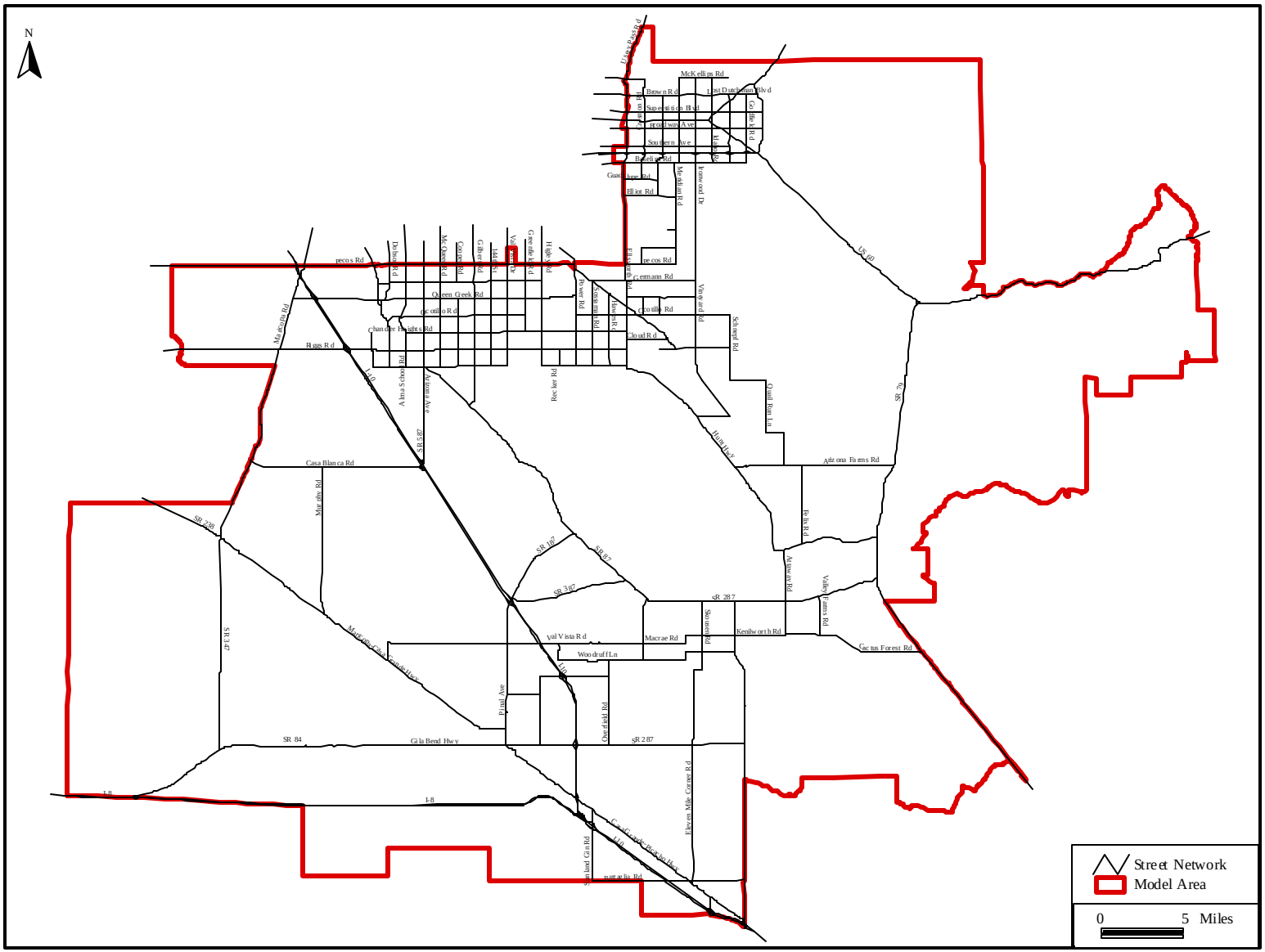


DEVELOPMENT OF FUTURE TRAFFIC CONDITIONS

2030 Socioeconomic Data for Model Area

Cambridge Systematics (CS) led the development of the 2030 socioeconomic forecasts in coordination with the study teams for the US 60 and Pinal County Study area Definition Studies. The methodology and 2030 socioeconomic forecasts are documented in a report *Pinal County Planning Model – Socioeconomic Estimates and Forecasts,* June 2005. The sources for the forecasts are the Central Arizona College Bond Feasibility Study and the travel demand models from the following studies: 1) Southeast Maricopa County/Northern Pinal County Transportation Study (SEMNPTS); 2) Pinal County, Transportation Study; and 3) Apache

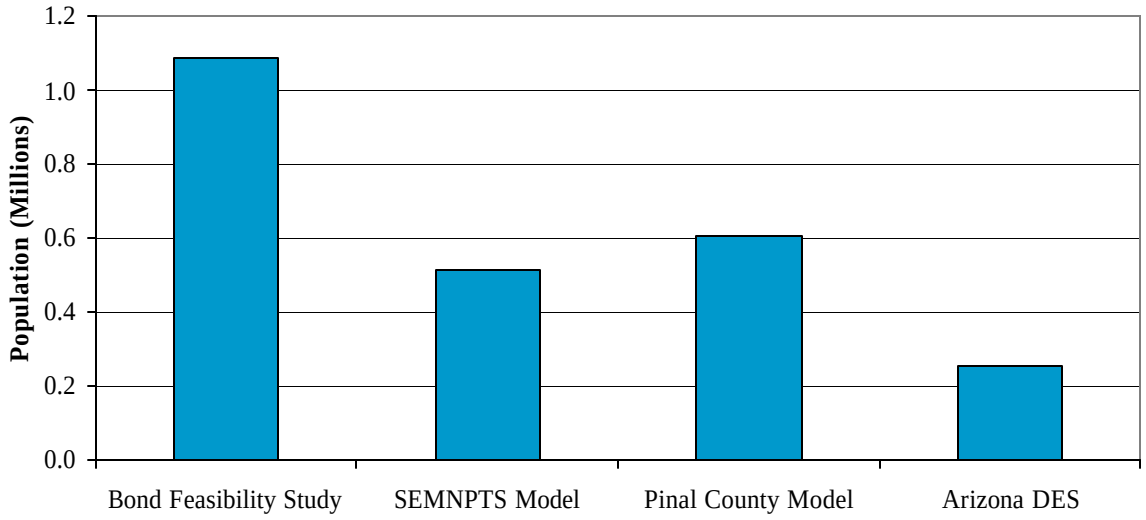
FIGURE 5-2. CORRIDOR DEFINITION STUDIES: MODEL AREA



Junction Small Area Transportation Study. In addition, the Pinal County land use plan served as an additional point of reference to estimate the extent of future year development. Information from the land use plan was used to help estimate potential development in unincorporated areas.

Figure 5-3 from the report *Pinal County Planning Model–Socioeconomic Estimates and Forecasts,* June 2005 provides a summary of the population projections for Pinal County from the sources noted above. These comparisons are shown for the entire model area used by the PCPM. Except for the Arizona Department of Economic Security (ADES) numbers, the comparisons are for the same geographic area. The ADES projections are the lowest, but are for the largest area, covering all of Pinal County. The other data sources are for the model area only, which does not include some smaller communities in the southern part of Pinal County. Each of the other studies has developed subregional population projections that are reasonably consistent across the three studies. Because each of the studies used a different definition of these subregions, the direct comparisons are not reproduced here. BFS projections available through 2025 were extrapolated to 2030 using a continuation of the rate of growth projected in the BFS.

FIGURE 5-3. COMPARISON OF PINAL COUNTY POPULATION PROJECTIONS, 2030



Source: Central Arizona College, 2004; Southeast Maricopa/Northern Pinal County Transportation Study, 2003; Pinal County, 2000; Apache Junction, 2003; and Cambridge Systematics, Inc., 2005.

According to the report, BFS projections were used for each of the areas as control totals for the purposes of the PCPM. These estimates are the best available estimates of population growth in Pinal County. They were developed using sophisticated methods that take into account actual development plans, available developable land in the County, expected demographic changes, and other related information.

2030 Socioeconomic Data by Analysis Zones

The ADOT Corridor Definition Study Teams as well as ADOT staff collaborated on the delineation of socioeconomic analysis zones (SAZs) within the study area (see Figure 5-4). The 2030 socioeconomic data was distributed to each SAZ including dwelling units, population, and employment categories for office, government, general, retail, and other. Table 5-1 summarizes the 2030 socioeconomic data for the model area and Figure 5-5 illustrates the 2030 population density allocation among the SAZs within the model area.

TABLE 5-1. 2030 SOCIOECONOMIC DATA
STUDY AREA DEFINITION STUDIES – MODEL AREA

Population	
Maricopa County Portion	414,000
Pinal County Portion	1,073,000
Entire Model Area	1,487,000
Dwelling Units	624,711
Employment	
Retail	101,878
Office	109,792
General	168,871
Government	67,906
Other	71,330
Total Employment	**519,777**
Population/Dwelling Unit	2.38
Employment/Population	0.35

Source: Cambridge Systematics

FIGURE 5-4. STUDY AREA AND SOCIOECONOMIC ANALYSIS ZONES

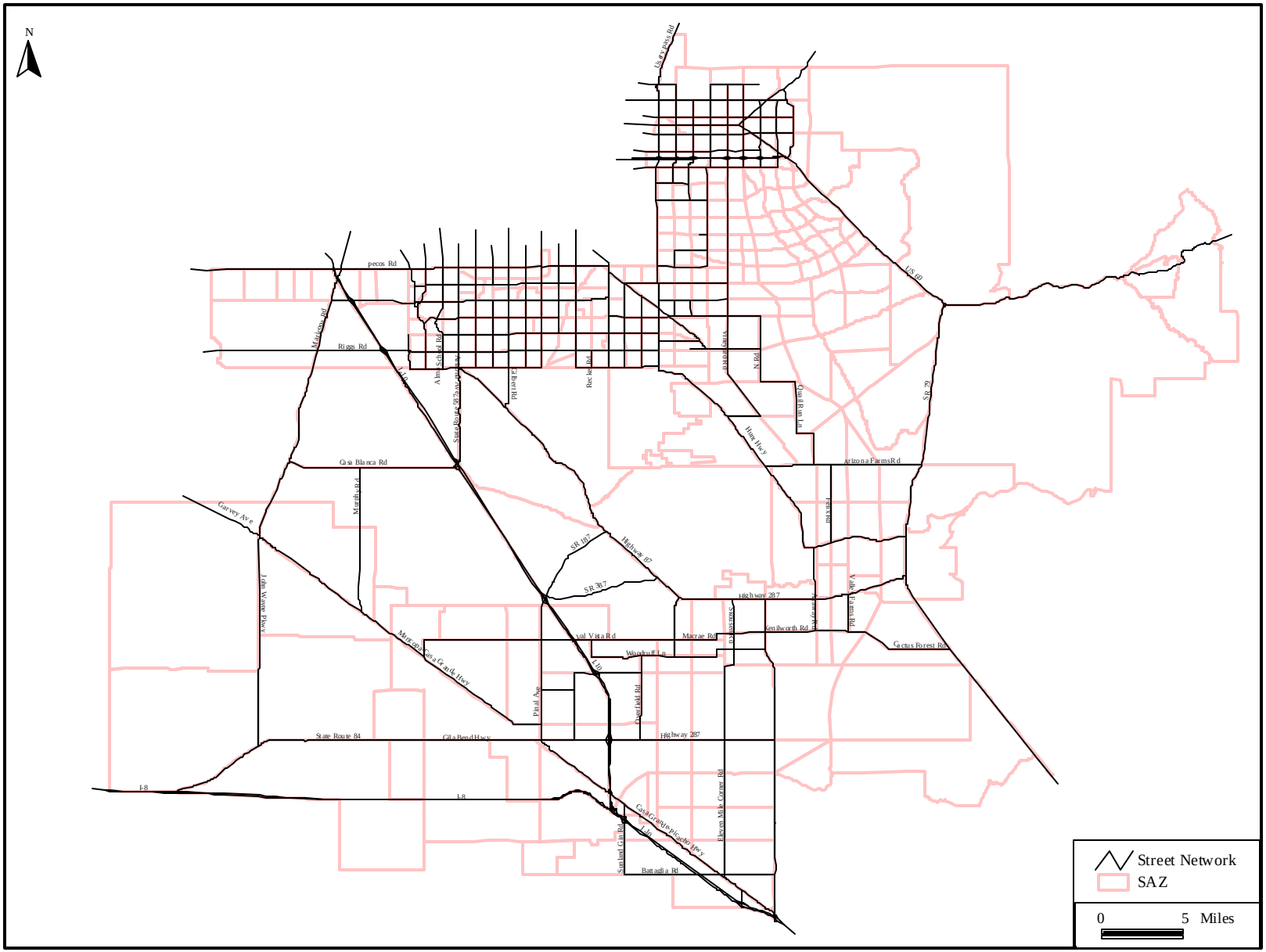
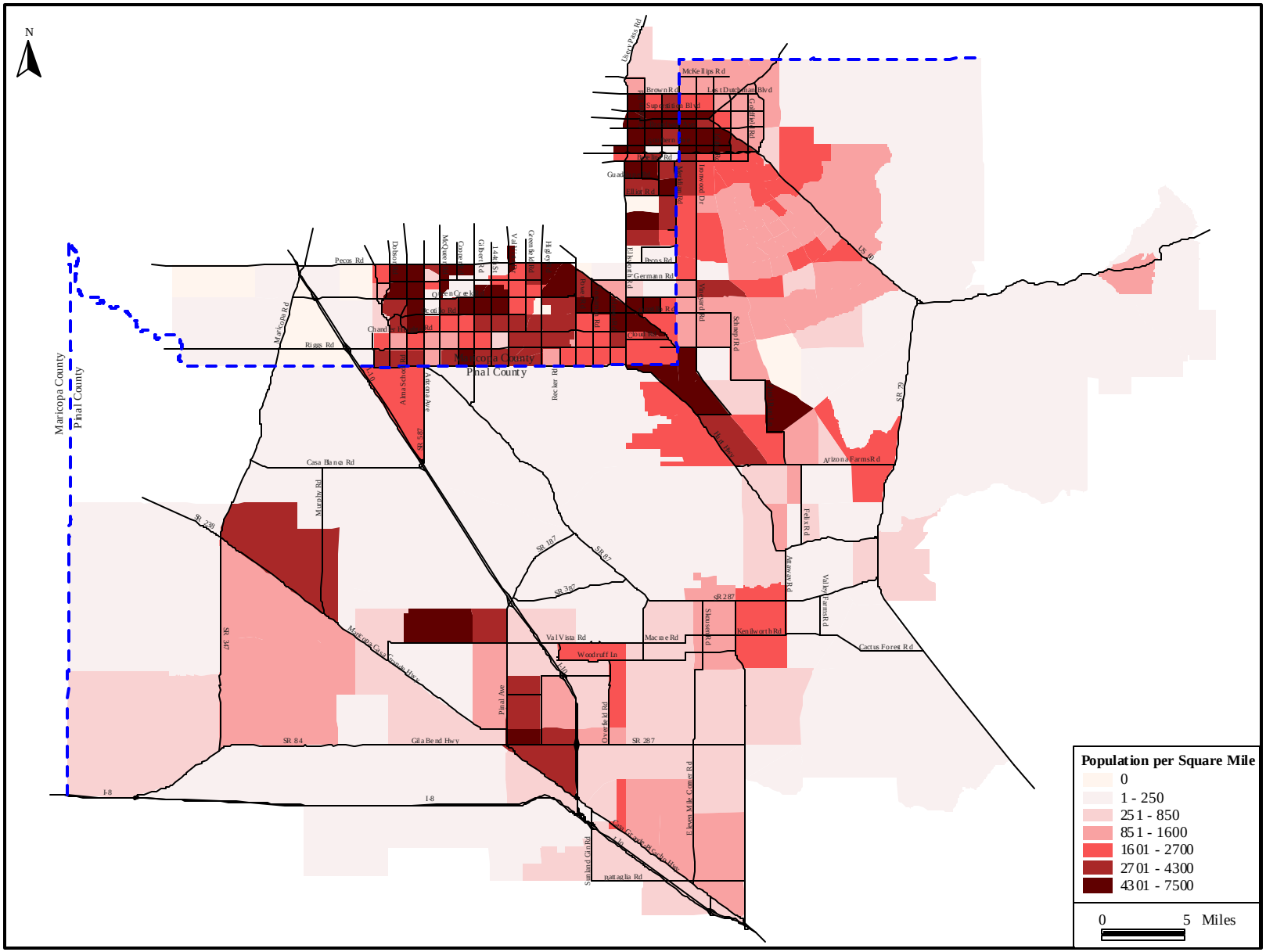


FIGURE 5-5. 2030 POPULATION DENSITY



Identification of 2030 Roadway Network

A 2030 base future network was defined excluding the four corridors under study by the Corridor Definition Studies. The 2030 base network was developed in collaboration with the three ADOT Study area Definition Study teams and Pinal County. The base 2030 roadway network shown in Figure 5-5 includes long-range improvements from the following sources:

- Improvements in ADOT Long-Range Transportation Plan (MoveAZ)
- Improvements in the MAG Regional Transportation Plan
- Arterials in the Apache Junction Small Area Transportation Study
- Expanded Arterial Road System in Pinal County developed by the study team and reviewed by Pinal County.

Figure 5-6 also illustrates the number of lanes assumed for the 2030 roadway network in vicinity of US 60.

Improvements that are assumed to be completed in the 2030 base future network include the following:

- I-10 - 6-lanes plus HOV lanes south to Riggs Road
- I-10 – 6 lanes south of Riggs Road through entire study area
- Loop 202 west of I-10 (
- Developed 4-lane arterial street system in south of Apache Junction in accordance with Apache Junction Small Area Transportation Study
- Expanded 4-lane arterial road system in Pinal County south of Apache Junction between SR 79 and I-10.

Estimation of 2030 Capacity Needs

The Pinal County Planning Model was used to estimate daily traffic volumes on the 2030 base network with the 2030 socioeconomic data. Figure 5-7 illustrates the traffic volumes and capacity needs for the vicinity of the US 60 study area. The figure shows that in 2030 existing four- lane US 60 would be over capacity for most of the length from the Superstition Freeway to SR 79.

FIGURE 5-6. 2030 BASE FUTURE NETWORK

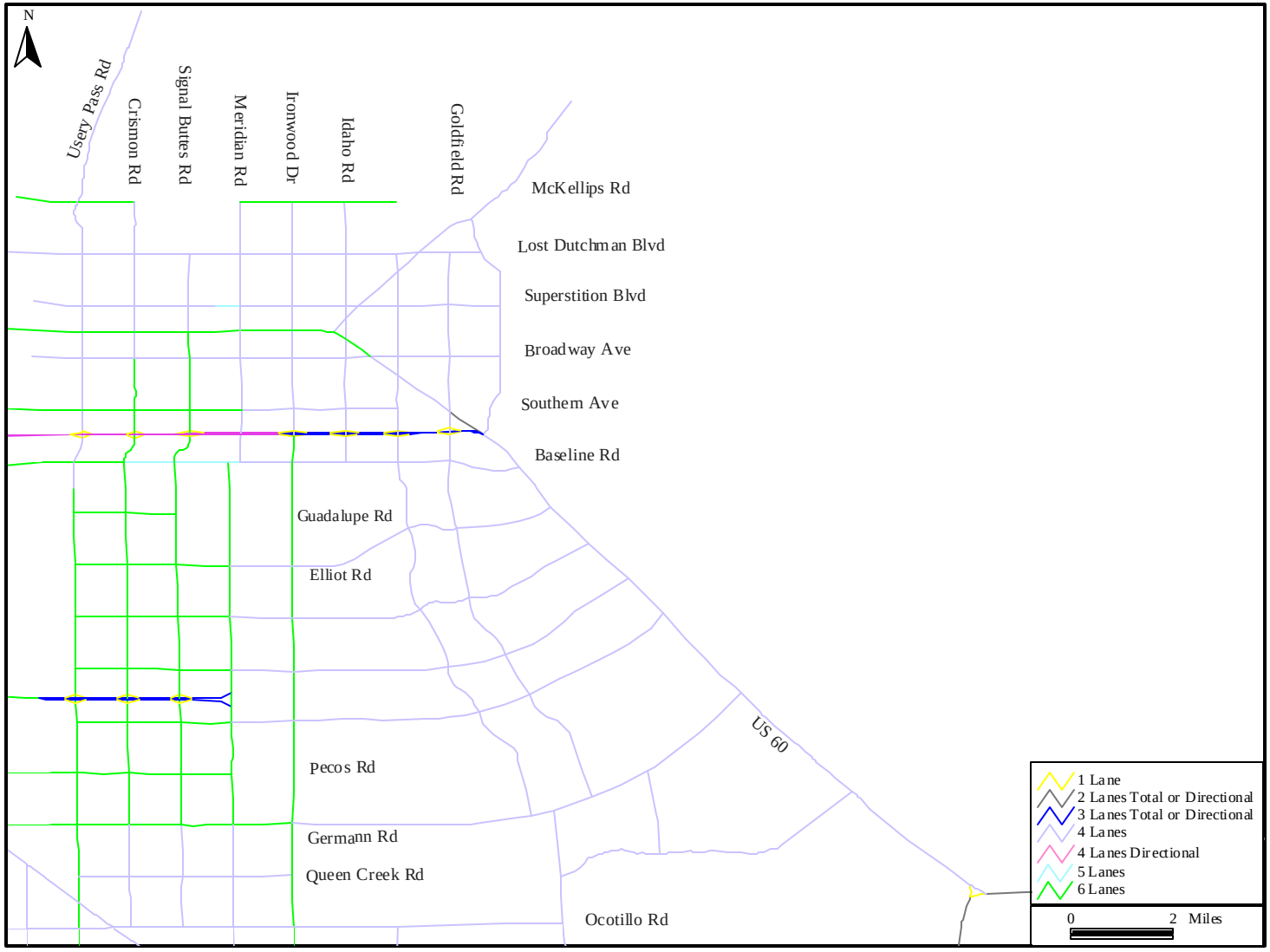
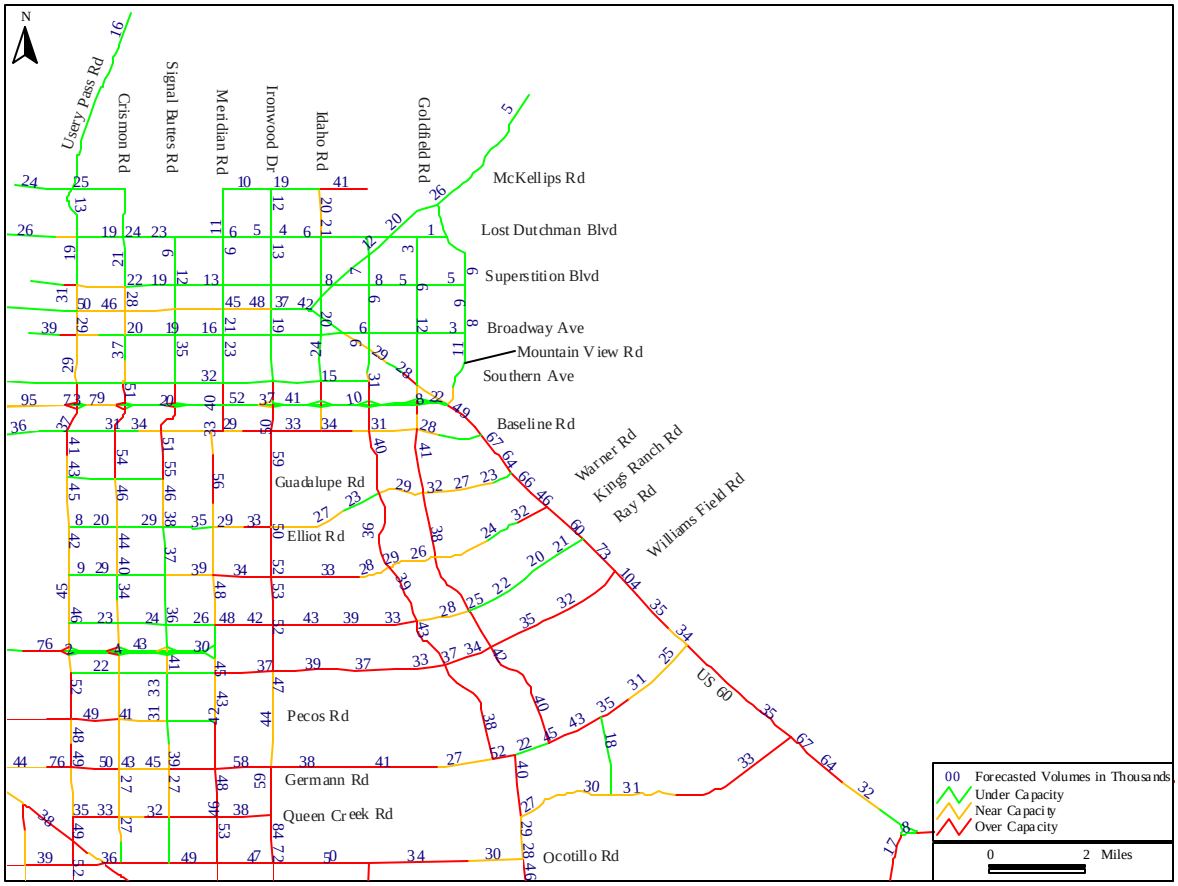


FIGURE 5-7. 2030 DAILY TRAFFIC VOLUMES AND CAPACITY NEEDS



APPENDIX A. ARIZONA GAME & FISH DEPARTMENT LETTER DATED MARCH 4, 2005

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
2221 WEST GREENWAY ROAD, PHOENIX, AZ 85023-4399
(602) 942-3000 • AZGFD.GOV

March 4, 2005

Ms. Sophie S. Cole
Lima & Associates
7250 N. 16th St.
Suite 300
Phoenix, AZ 85020

Re: Special Status Species Information for **US Route 60, Milepost 199.0 to Milepost 212.0; Proposed US 60 Corridor Study.**

Dear Ms. Cole:

The Arizona Game and Fish Department (Department) has reviewed your request, dated February 25, 2005, regarding special status species information associated with the above-referenced project areas. The Department's Heritage Data Management System (HDMS) has been accessed and current records do not indicate the presence of any special status species in the project vicinity (2-mile radius). In addition this project does not occur in the vicinity of any Designated or Proposed Critical Habitats.

The Department's HDMS data are not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity.

Making available this information does not substitute for the Department's review of project proposals, and should not decrease our opportunities to review and evaluate new project proposals and sites. The Department is also concerned about other resource values, such as other wildlife, including game species, and wildlife-related recreation. The Department would appreciate the opportunity to provide an evaluation of impacts to wildlife or wildlife habitats associated with project activities occurring in the subject area, when specific details become available.

If you have any questions regarding this letter, please contact me at (602) 789-3619. General status information and county distribution lists for special status species are also available on our web site at http://www.azgfd.gov/hdms, as well as species abstracts for some special status species.

Sincerely,

Ginger Ritter

Ginger L. Ritter
Heritage Data Management System, Data Specialist

SSS:glr

cc: Rebecca Davidson, Project Evaluation Program Supervisor
Russ Haughey, Habitat Program Manager, Region VI

AGFD# 03-01-05(14)

APPENDIX B. STUDY AREA PHOTOGRAPHS

US 60 eastbound at MP 199.0

US 60 eastbound at MP 199.5 looking Southwest

Driveway access towards private property from US 60 eastbound at MP 201.5

Canyon Vistas RV Resort entrance from US 60 eastbound at MP 201.6

US 60 eastbound at MP 201.8 looking north towards crossover of 4-lane divided highway

Commercial sites driveway access from US 60 westbound at MP 201.3

Gold Canyon RV & Golf Resort entrance from US 60 eastbound at MP 202.0 (Mountainbrook Drive)

Mountainbrook Drive looking West intersecting US 60 at MP 202.0

Mountain Brook Village entrance located on Mountainbrook Drive eastbound

Intersection of Kings Ranch Rd and US 60 at MP 202.7 looking northwest

Peralta Trails entrance located on Peralta Trail eastbound

Peralta Trail and US 60 intersection at MP 204.2

Arizona Renaissance Festival entrance from US 60 eastbound at MP 205.3 looking north

Arizona Renaissance Festival driveway access from US 60 eastbound at MP 205.3

Arizonian Travel Trailer Resort entrance from US 60 westbound at MP 207.8

US 60 at MP 207.8 looking west towards JP Trailer Sales

Crossover on US 60 4-lane divided highway at MP 210.2 looking northwest

US 60 eastbound at MP 211 approaching 230 KV power line crossing the 4-lane divided highway

Hansen entrance located at the northwest corner of Peckary Road and US 60 westbound at MP 210.8 looking north

Florence Junction exit on US 60 eastbound at MP 212

SR 79 northbound towards US 60 traffic interchange

US 60 westbound ramp at MP 212